

MICHIGAN FARM NEWS

MICHIGAN'S ONLY STATEWIDE FARM NEWSPAPER

MICHIGAN FARM BUREAU



MICHIGAN FARM BUREAU

March 30, 1996
Vol. 73, No. 6



Problems and predictions for livestock producers

Hog market outlook for 1996?

Rising grain prices since last summer have added nearly \$10 per cwt. to the cost of raising hogs, according to a USDA Economic Research Service (ERS) hog outlook report. Feed cost currently accounts for 65 percent of cash expenses on smaller farrow-to-finish operations, and is expected to hit 70 percent of cash expense by spring.

Strong export sales and seasonally higher feed use have contributed to quickly declining grain stocks. The U.S. average farm price of corn in December averaged \$3.08 per bushel compared to \$2.13 a year earlier. ERS is predicting that 1995/99 average price will fluctuate between \$3 and \$3.40 per bushel.

Pork supplies during the second half 1996 could be sharply higher compared to 1995 levels. Year-over-year increases in sows farrowing, more pigs saved per litter, and heavier carcass weights following last summer's heat-related declines could lead to 7 and 6 percent more production in the third and fourth quarters, respectively, compared to 1995 figures.

More constrained increases are expected in the spring quarter following a 2 percent decline between January and March. The shift between first and second half pork supplies reflects improving profit conditions within the industry over the last 14 months, according to ERS.

Pork production this summer will come primarily from the December-February pig crop, which is expected to exceed 24.5 million head. A slight increase in the number of sows farrowing and additional gains in the number of pigs saved per litter will add about 380,000 head to the December-February pig crop. Annual increases in the number of pigs saved per litter continues to average nearly 2 percent.

This year's March-May crop could be up nearly 4 percent over the 1 million head from 1995, based on producers' intentions to have 2 percent more sows farrow and assuming gains in the number of pigs saved per litter continues.

So far, expansion in farrowing has occurred primarily by limiting culling from breeding herds. Bred gilts entering the breeding herd during September-November declined nearly 13 percent from a year earlier, while sow slaughter fell 15 percent.

Rising production costs in 1996 will continue to squeeze profit margins. Cash hog prices are expected to range in the low 40s this spring.

Continued on page 8



Michigan's livestock industry is facing challenges — rising input costs, oversupply and market saturation have forced producers to search for enhanced management skills to ride out the current downturn. The focus of this issue of the Michigan Farm News will provide profitable strategies for members to consider implementing in their operation.

Can cattle feeding be profitable?

by Steven Rust and Roy Black

Record high corn prices, coupled with the largest per capita supply of beef since 1986, has created uneasiness about the future profitability of cattle feeding. Low fed cattle and high corn prices have affected all segments of the cattle industry, reducing feeder cattle, dairy calf and cull cow prices. This year has been particularly frustrating to cattle feeders because the price of corn has increased steadily, far exceeding the market's mid-August pre-harvest expectation of \$2.70 to \$2.80/bu. Technical trend lines, constructed in mid-August, which had an upside potential of \$3.70/bu., have been breached.

The feeder cattle market has softened considerably since August, but it's been difficult to place cattle with a good likelihood of making a profit — feeders that appeared to be priced "right" have tended to lose money as corn prices escalated. Also, the fed cattle market for cattle placed in the fall may end up trading \$1 to \$2/cwt. lower than expected. Still, most cattlemen feeding their own corn and silage who bought feeders "right" will end up netting \$3 to \$3.50/bu. corn compared to what they would have returned to their fixed facilities if they had shut their feedlot down.

The focus of this article is, "What can be done to reduce the risk of unprofitability?" We look at the near terms as well as providing some comments on the longer-term. From a short-term perspective,

discussion will be focused on three topics: marketing, nutrition and yardage.

Marketing

- Don't overstay the cattle in your feed yard. The longer cattle are on feed, the worse feed conversion efficiency becomes (Table 1). In this analysis, cumulative feed conversion efficiency increased from 7.37 to 8.35 lbs. of feed per pound of gain as slaughter weight increased from 1,100 to 1,300 lbs. The amount of feed required to take cattle from 1,100 to 1,200 lbs. and 1,200 to 1,300 lbs. was 9.83 and 11.05 lbs., respectively. The table clearly indicates that selling cattle as soon as they will grade will reduce feed costs and increase profitability.
- When possible, buy reputation cattle that have a proven track record for low costs of gain and a propensity to grade Choice. Unfortunately, few producers keep adequate records that would identify which sources of cattle are more profitable. Results from the first two years of the Michigan Steer Evaluation would suggest a 31 percent difference in live value (from \$57.22 to \$75.12) based on the origin of the cattle.
- Study the seasonality of profitability and attempt to buy a larger proportion of your cattle at those times when the probability of a profit is greatest. A recent analysis of historical profitability by month of placement by, Jim Hilker and Roy Black,

Continued on page 4

COVER STORY

Tight corn stocks are translating into prices reaching \$3.75 per bushel or higher over the next few months, meaning continued woes for America's cattle producers and potential problems for the hog sector, according to MFB Livestock Specialist Kevin Kirk. But, he says, there is a light at the end of the tunnel, particularly for the producer who focuses on low-cost, high-quality meat production.

Kirk says that a drop in cattle herd expansion is needed and although the industry has moderated its expansion rate, the current growth has helped kill the market. He noted that expansion is not isolated to any particular region.

"There has been an upswing over the last few years and a 3 or 4 percent expansion in beef cows will kill a market," Kirk said, noting that the growth rate could "certainly contribute to killing a market and that is basically what we have done."

Not all news is bad for cattle producers. Kirk says the market is paying a premium for choice versus select beef. A possible prescription for producers is to grow higher quality beef — the type of beef desired by importers and restaurateurs. U.S. beef exports are strong at more than 7 percent of the total supply and are expected to continue to grow.

Kirk said large imports of live Mexican cattle last year was insignificant to the U.S. beef industry because the six-month import cycle was near the equivalent of a normal 12-month level.

Kirk noted that, despite a poor showing for cattle producers and their farm gate receipts in 1995, it was a record year for beef packers. "That's probably not news to anyone," he said.

Continued on page 15

INSIDE THIS ISSUE OF THE MICHIGAN FARM NEWS

| | | | | | |
|----------------------------------------------------|----|-------------------------------------------------------------|----|-------------------------------------------------------------------------------|----|
| Can cattle feeding be profitable? | 4 | Should you consider grazing dairy cows? | 11 | Segregated early weaning — increasing pork production without expansion | 15 |
| Enterprise accounting | 6 | Rethinking your dairy herd health program? | 12 | Effects of labor efficiency of heifer raising cost | 15 |
| Determining your crop mix in '96 | 7 | Tips for managing the bST herd | 13 | Contract finishing hogs — Would it work for you? | 16 |
| Custom feedlots — are they for you? .. | 9 | Networking for pork producers | 14 | | |
| 10 steps to cutting cow-calf costs | 10 | Good nutrition improves dry cow health during calving | 14 | | |
| Riding out the down side of the cattle cycle | 11 | | | | |

Sell products and services in the Michigan Farm News classifieds—Page 17

MICHIGAN FARM BUREAU
A Publication of the Michigan Farm Bureau
P.O. Box 30960 • 7373 West Saginaw Highway
Lansing, Michigan 48909-8460

News in Brief



From the President

Sometimes, those of us in agriculture complain that regulators and the general public don't recognize all the things that farmers are doing to help improve environmental quality. No doubt about it — agriculture has a great story to tell, especially about the ways that farmers work together with their communities in many areas to make sure our air, water and soil is as clean as it can be. But how can we provide that story with more visibility?

We have a great opportunity coming up in early April to vividly demonstrate how agriculture and the private sector can make a difference in preventing pollution. Your organization, in an almost unprecedented effort in these days of environmental confrontation, is joining with the state Department of Environmental Quality to host a conference called "Partnerships for Pollution Solutions." Coming up April 2 at the Radisson Hotel in Lansing, the meeting will present strategies to help those of us concerned about the environment use cooperation to find common ground and achieve new levels of environmental protection.

One of the important goals of the meeting is to help address the public demand for environmental protection in these times of limited government funding. Farm Bureau's long-term philosophy has been that voluntary efforts are always more effective than heavy-handed, "top-down" government regulation. The information that will be presented at this conference will, I hope, help stimulate ideas about partnership-building that can leverage limited funds

Ciba/Sandoz merger

Ciba-Geigy and Sandoz announced the two companies will merge to form the world's biggest drug and chemical company, with annual sales expected to surpass \$30 billion. The deal would be one of the world's largest and most expensive mergers ever and would form the world's largest agri-chemical company.

Company officials announced there would be huge job losses and Ciba said it would sell its chemical operation to an independent unit — a move similar to a Sandoz tactic taken last year. ■

Export record

The farm trade surplus last year reached a record \$25.8 billion. That level was 37 percent higher than the 1994 surplus. Exports totaled \$55.8 billion, also a record, but imports were up 12 percent to \$30 billion — with most of that increase from imports of rubber, coffee and cattle.

Highlights: Beef exports rose 15 percent to \$2.6 billion, with half of those to Japan; poultry exports were up 29 percent to \$2 billion; cotton exports were \$3.7 billion, up \$1 billion over 1994; fresh vegetable exports were unchanged at \$3.9 billion; citrus exports reached \$2.7 billion; wheat shipments were up 6 percent with a value increase of 34 percent equaling \$5.4 billion; corn exports were up 68 percent with China purchasing 5.4 million tons; and soybean shipments were up 26 percent to 22.8 million tons. ■

to produce higher public dividends with fewer government mandates.

The conference program will include a panel of farmers talking about their local, cooperative initiatives in reducing rural pollution. This panel will be one of the highlights of the program, not only for what the farmers can teach their fellow producers, but for the tremendously positive image it will present to people outside of agriculture. What better way to address the unfair criticism that "agriculture doesn't care about pollution" than to visibly show that a group of outstanding, professional farm operators is doing a great deal to address pollution problems in their areas.

In addition, the program will have a panel of agribusiness representatives explaining their role in improving environmental quality; and closing remarks by Sandra Batie, the Elton R. Smith Endowed Chair Professor of Food and Agricultural Policy at Michigan State University.

This conference is probably the most broadly supported environmental quality effort we have seen in the state for some time. Not only is it co-sponsored by the Department of Environmental Quality, it is supported by Michigan State University Extension, the Michigan Department of Agriculture, the North Central Regional Center for Rural Development and the Work Group Committee of Partnerships for Pollution Solutions.

I hope many of you will attend and I urge you to encourage many of your farm neighbors to attend as well. As an added incentive, registered pesticide applicators can receive three recertification credits for coming to the conference. A good turnout is important, not only for the networking and idea sharing on cooperative opportunities for improving environmental quality, but also for demonstrating to the media and general public that agriculture is visibly committed to building private/public environmental partnerships.

The conference costs \$15 per person. Time is short, so it's important that you register today by contacting the MFB Commodity Activities and Research Division in Lansing, 517-323-7000, Ext. 2024.

Jack Laurie

Jack Laurie, President
Michigan Farm Bureau

Sheep producers vote for fee change

Sheep producers voted to alter fees on wool and lamb to underwrite an industry-wide marketing program. Approximately 54.1 percent — or 10,707 producers — voted for the assessment. According to USDA's Agricultural Marketing Service. Voting on the proposal took place Feb. 6.

The assessment program is forecast to generate approximately \$13 million a year, beginning in 1996. Funds will be collected from fees of 1 cent per pound on domestic lamb, 2 cents on domestic raw wool and 2 cents on imported degreased wool and wool products. ■

Russian chicken flap backlash

Tyson Foods Inc. announced last week it would scale back by 7 percent its chicken production, due largely in part to Russian trade barriers that will be put in place later this month.

The trade barriers will prohibit the import of U.S. chicken based on health and sanitary issues. The chicken embargo is expected to impact U.S. chicken producers to the tune of \$700 million in sales. The Russian market is important to American producers because Russians prefer dark meat, whereas American consumers prefer white meat.

Agriculture Department officials are negotiating with Russia, but not much movement has taken place. Last year, Tyson sold \$150 million worth of chicken to Russia, less than 5 percent of the company's total sales. ■

"Key to Profit" cattle sale repeats at Escanaba, Mich.

The Upper Peninsula Hereford Breeders Association (U.P. HBA) has scheduled its sixth "Key to Profit" sale for April 27 at the U.P. Beef Expo in Escanaba, Mich.

"Along with the Hereford cattle (horned and polled), we have Simmental, Limousin and Angus consigned," said sale chairman and U.P. HBA President Merlin Atkins, Sault Ste. Marie. "We have 20 bulls and 20 females, bred and open, cataloged for the sale, which begins at 1 p.m. (EST) at the U.P. State Fairgrounds.

"Our Expo Sales have continued to fill the demand for top quality breeding stock. By going in with several breeds, we are able to offer cattlemen top genetics without them having to travel great distances."

The sale was organized by the U.P. HBA with a commitment to providing profitable breeding stock to the area's cattlemen. All bulls will undergo a breeding soundness exam so purchasers can buy with confidence.

For more details about the sale, contact Merlin Atkins at 6330 Nicolet Rd., Sault Ste. Marie, MI 49783, Phone (906) 632-7046 or U.P. HBA Secretary Glenn Hanson Jr., Rt. 1, Box 94A, Stephenson, MI 49887, (906) 753-4311. ■

February milk production up 4 percent

Dairy herds in Michigan produced 446 million pounds of milk during February, up 4 percent from a year ago, according to the Federal/State Michigan Agricultural Statistics Service. This increase was mainly due to leap year adding an extra day to the month of February. Milk per cow was 1,365 pounds compared with 1,315 last year. However, on an average daily basis, production per cow for February was virtually unchanged from a year ago. The dairy herd was estimated at 327,000 head, up 1,000 head from February 1995 but unchanged from last month.

The preliminary value of milk sold was \$14.30 per hundredweight in February, the same as January 1996 and \$1.40 more than February 1995. The mid-month February slaughter cow price was \$31.00 per cwt., compared with \$42.80 in February 1995.

Milk production in the 22 major states during February totaled 10.8 billion pounds, 3 percent above production in these same states in February 1995. Again, this increase was due to February 1996 having an extra day because of leap year. Production per cow averaged 1,343 pounds for February, 48 pounds above February 1995. On an average daily basis, production per cow for February was virtually unchanged from a year ago. The number of cows on farms in the 22 major states was 8.01 million head, 38,000 head less than February 1995 and 14,000 head less than January 1996.

Dairy manufacturing plants in Michigan produced 2.1 million pounds of butter in January, 6 percent more than a year ago. Ice cream output totaled 1.5 million gallons compared with 2.3 million gallons in January 1995. ■

Regulatory reform bill pulled from House consideration

The Farm Bureau-backed regulatory reform bill was pulled from House consideration by Republican leaders hours before it was to be debated on the floor. The bill was withdrawn because the leadership feared an ugly floor fight and that their party would be classified as "anti-environment."

"We don't want to put our members out there one more time taking a vote that the environmental extremists can twist and turn in campaign ads," said House GOP Whip Tom Delay (R-Texas).

The GOP leadership now hopes that additional negotiations may produce a more amicable compromise between the feuding sides. Critics said the bill was too broad and could endanger regulations that protect the air, water, endangered species and other natural resources.

However, proponents, including Farm Bureau, said the bill would provide some relief for businesses — especially small ones — overburdened by costly government regulations. "It (the bill) doesn't affect a single rule," said Rep. William Clinger (R-Pa.), a bill co-sponsor. "It just says 'look at it and see if you think it deserves to be continued or not.'" ■

CRP "Early Out" option begins March 20

USDA Secretary Dan Glickman said March 14 that farmers with land in the Conservation Reserve Program can sign up March 20 through April 26 for permission to take their land out early.

At the same time, CRP participants whose contracts expire this September may ask for a one-year extension.

Glickman says he is offering the one-year extension as a stop-gap measure until permanent CRP policy is decided in the farm bill.

Contracts with the following types of land will not be eligible for early out:

- Land devoted to useful life easements.
- Field windbreaks.
- Grass waterways.
- Shallow water areas.
- Bottomland timber on wetlands.
- Land within an average of 100 feet of a stream or other permanent body of water.

Any "highly erodible land" that is released early from CRP for crops must have an approved conservation plan.

Any land used for haying or pasture must have a haying or grazing plan.

Under the one-year extension option, no new land may be added. The extension may be applied to the entire contracted land or just a portion. ■

Michigan cattle numbers down

The Jan. 1, 1996, Michigan cattle herd totaled 1,170,000 head, down 2 percent from a year ago, according to the Federal/State Michigan Agricultural Statistics Service. The Jan. 1 milk cow inventory, at 328,000 head, was down 5,000 head from the previous year. Milk cow replacement heifers, at 155,000, were down 6,000 head from last year. Beef cows at 122,000 head, were down 8 percent. Beef replacement heifers totaled 30,000 head, unchanged from last year. The 1995 calf crop was 420,000 head, 5,000 less than the previous year.

Cattle on full feed for slaughter totaled 200,000 head, down 10,000 from a year ago. Steer numbers, at 220,000 head, were down 4 percent from a year ago; and other heifers, at 45,000 head, were down 1,000 head. Calves on hand, at 250,000 head, were unchanged from last year.

Michigan has 19,000 operations with cattle, unchanged from last year. Seventeen percent of the operations had 100 or more head of cattle. Operations with 100 or more head accounted for 65 percent of the state's cattle inventory. Milk cow operations totaled 4,700, down 100 operations from 1995. Fifty-three percent of the milk cow operations had 50 or more head, comprising more than 83 percent of the state's inventory. There were 220 operations, with over 200 head, accounting for 20 percent of the total milk cow inventory. ■

Bright outlook for U.S. meat exports

Strong demand, rising world incomes and lower international trade barriers have helped create exciting opportunities for U.S. meat exporters, Reuters reports from a California meat conference.

"U.S. red meat exports have just been going through the roof," said Hal Shenson, president of H. Shenson International, a San Francisco meat company that focuses on exporting.

He estimates that this year's U.S. exports of beef, pork and lamb could exceed \$4 billion, compared with \$1.5 billion in 1987.

"What's really happening out there in the world marketplace is that demand is increasing and the pie is getting bigger, and the United States is getting a bigger percentage of the world pie," said Severin Johnson, assistant director of food sciences at Iowa State University.

He noted that the seven-year GATT talks and other moves to liberalize world trade have given the United States "better opportunities and a more level playing field than we've ever had before." For example, the United States has been able to weaken trade barriers on meat shipments to Japan and South Korea.

Johnson says some of the big markets of the futures will be Vietnam, the Philippines and Turkey. In general, there is good demand from Latin America, Africa, Asia, the Mideast and eastern Europe.

Shenson notes that pork is becoming an important product in overseas sales, especially in Japan and Russia. He expects Russia to develop as a market for U.S. beef soon, according to a Reuters report from the National Meat Association convention in San Francisco. ■

The Michigan Farm News (ISSN:0743-9962) is published twice per month except in the months of November, December, June and July when only one issue is printed, as a service to regular members, by Michigan Farm Bureau, 7373 West Saginaw Highway, Lansing, Michigan 48917. Member subscription price of \$1.50 is included in annual dues of Michigan Farm Bureau regular members. Additional subscription fees required for mailing Michigan Farm News to nonmembers and outside the continental U.S.A. Second-class postage paid at Lansing, Michigan, and additional mailing offices.

Letters to the editor and statewide news articles should be sent to: Editor, Michigan Farm News, Post Office Box 30960, Lansing, Michigan 48909-8460. POSTMASTER — Send address changes to: Michigan Farm Bureau, Post Office Box 30960, Lansing, Michigan 48909-8460.

Editorial: Dennis Rudat, Editor and Business Manager; Thomas Nugent, Associate Editor.
Design and Production: Jeffrey Rutzky. Staff Contributors: Mike Rogers

Officers: President, Jack Laurie, Cass City; Vice President, Tom Guthrie, Delton; Administrative Director, Chuck Burkett; Treasurer and Chief Financial Officer, Tom Parker; Secretary, David VanderHaagen. Directors: District 1, Jim Miller, Coloma; District 2, Blaine VanSickle, Marshall; District 3, Michael Fusiller, Manchester; District 4, Tom Guthrie, Delton; District 5, Alan Garner, Mason; District 6, Wayne Wood, Marlette; District 7, Rick Johnson, Leroy; District 8, Richard Leach, Saginaw; District 9, Joshua Wunsch, Traverse City; District 10, Margaret Kartes, West Branch; District 11, Robert Wahmhoff, Baraga. At-Large: Jack Laurie, Cass City; Faye Adam, Snover; Jan Vosburg, Climax; Judy Emmons, Sheridan. Promotion and Education, Brigitte Leach, Climax; Young Farmers, Chris Donbrock, Coldwater.

Capitol Corner

Farm bill conference okays bill

Program sign-up is anticipated to run from mid-May to August

Members of the House-Senate Farm Bill Conference Committee quickly approved a final version of the measure known as the "Federal Agricultural Improvement and Reform Act of 1996." Farm Bureau says the bill will "help farmers become more productive, continue to save tax dollars and will improve the rural environment."

"This measure is the best possible outcome for all concerned," said American Farm Bureau Federation President Dean Kleckner. "Farmers will have greater flexibility to produce for the market and there will be an orderly seven-year phase-down of government payments to farmers."

MFB President Jack Laurie said farmers have waited a long time to wrap up the 1995 farm bill, and that quick action by both the House and Senate are expected. "We sincerely hope for an agreement with the administration and hope the president will sign it to get this whole effort behind us," he said. "I think agriculture is excited about moving away from what had traditionally been part of our farming operations — government programs — toward a freer, more market-oriented approach for agriculture."

In addition, the bill provides conservation incentives that will enable farmers to improve the environment, according to Kleckner. "Even though we didn't get everything we wanted, the bill's

conservation provisions largely avoid the punitive, command-and-control approaches that have raised farmers' ire."

The House and Senate were expected to vote on the final version on March 28 and 29 before recessing. Agriculture Secretary Dan Glickman said he will, "with reluctance," recommend that President Clinton sign the House-Senate compromise farm bill, saying farmers' needs for a farm bill outweigh his concerns over the package.

Glickman's reservations about the new bill include its limits on nutritional programs and limits on elements of the rural "safety net." He said he will begin to work with Congress to repair and retain a rural safety net. ■

For more information on legislative topics in the Michigan Farm News, call 800-292-2680.

The Agricultural Market Transition Act of 1996: Commodity and conservation program provisions

by David B. Schweikhardt and Sandra S. Batie, Department of Agricultural Economics, Michigan State University; and Otto C. Doering, Department of Agricultural Economics, Purdue University

The Federal Agricultural Improvement and Reform Act of 1996 contains major revisions in farm commodity programs. Because many program implementation rules are still being developed, program participants are advised to consult their local office of the Farm Service Agency for final program provisions in making their decisions.

Commodity program provisions

The Federal Agricultural Improvement and Reform Act of 1996 replaces the existing target price programs with Production Flexibility Contracts available to participants for the seven-year life of the act. The major changes in commodity programs include:

- Target prices and deficiency payments are eliminated for feed grains, wheat, cotton and rice.
- All existing Acreage Reduction Program (ARP) provisions are eliminated.
- All 0/85 provisions are eliminated.
- All existing Crop Acreage Bases are converted into Contract Acreage for the payment of Production Flexibility Contracts.
- Eligible landowners and operators can sign seven-year Production Flexibility Contracts and receive contract payments from 1996 to 2002. Contracts must be signed during the 1996 sign-up period (anticipated to begin in mid-May) if any contract payments are to be received between 1996 and 2002.
- Program participants are not required to purchase catastrophic risk protection crop insurance in order to receive contract payments, but participants who do not obtain catastrophic risk protection must agree to waive any eligibility for emergency crop loss assistance on uninsured crops.
- The honey program, Farmer-Owned Reserve, and Emergency Livestock Assistance Program are eliminated.
- The permanent law provisions of the 1938 and 1949 farm bills would be suspended (not eliminated) from 1996 to 2002.

Program eligibility

Production Flexibility Contract payments will be paid on eligible cropland that is enrolled in the program and that meets all compliance requirements. Owners and operators enrolling farmland in a contract must comply with the conservation plan prepared for the farm under the Food Security Act of 1985, the wetland protection requirements in the 1985 act, and the planting flexibility provisions contained in the 1996 act.

Cropland will be eligible for a Production Flexibility Contract if it has Contract Acreage attributable to the land and if it meets one of the following criteria:

- At least a portion of the land was enrolled in the acreage reduction program for the contract commodity during at least one crop year from 1991 to 1995 or was "considered planted" during that period (i.e., setaside, 0/85, 0/92).
- The land was enrolled in a conservation reserve contract that expired or was voluntarily terminated after Jan. 1, 1995.
- The land was enrolled in a conservation reserve contract that was released by the Secretary of Agriculture between the period from Jan. 1, 1995 until the final day of sign-up established in the 1996 act.

In addition, to receive payments, enrolled land must be used for agriculture or related uses and cannot be used for nonagricultural commercial or industrial uses.

Farmland owners and farm operators will be eligible to enter a Production Flexibility Contract if they meet one of the following criteria:

- The owner of the eligible cropland assumes all the risk of producing the crop.
- The owner of the eligible cropland shares in the risk of producing the crop.
- The owner of the eligible cropland and the operator who share-rents the eligible cropland both enter into the contract.
- The operator of the eligible cropland cash-rents the land with a lease that expires after Sept. 30, 2002 (consent of the owner is not required).
- The operator of the eligible cropland cash-rents the land with a lease that expires before Sept. 30, 2002 (consent of the owner is required).
- The owner of the eligible farmland cash-rents the land with a lease that expires before Sept. 30, 2002 but whose operator declines to enter a contract. The owner will be eligible to receive contract payments beginning in the fiscal year after the lease with the non-participating tenant has expired.

Calculation of contract payments

Production Flexibility Contract payments will be calculated for each farm enrolled in the program. Payments will be calculated for each year from 1996 to 2002 using the following formula:

$$(\text{Contract Acreage}) \times (\text{Farm Program Payment Yield}) \times 0.85 \times (\text{Annual Contract Payment Rate}) = \text{Annual Production Flexibility Contract Payment}$$

The Contract Acreage for each farm is equal to the farm's 1996 established Crop Acreage Base for each program crop. The Farm Program Payment Yield is equal to the program payment yield established for the 1995 crop on the farm.

The Contract Payment Rate for each program crop will be calculated by the USDA as the total budget allocation for each program crop divided by the total quantity of production of that crop enrolled in the program. Estimates of the contract payment rates are shown in Table 1. All payments will be made each year regardless of the market price.

Annual contract payments will be made not later than Sept. 30 of each year. Participants could choose to receive advance payments of 50 percent of the total annual contract payments. Advance payments will be paid on June 15 of 1996 and Dec. 15 of all subsequent years. The act also requires the Secretary of Agriculture to establish adequate safeguards in the division of payments to protect the interests of operators who are tenants or sharecroppers.

Planting flexibility provisions

This legislation allows greater planting flexibility on Contract Acreage. Participants who sign a Production Flexibility Contract are permitted to plant any commodity or crop except fruits and vegetables on Contract Acreage. There are no planting restrictions on any non-contract acres on the farm. Alfalfa may be harvested on Contract Acreage. There will be no restrictions on haying and grazing on Contract Acreage.

Producers interested in double-cropping fruits and vegetables on Contract Acreage should consult their local Farm Service Agency office for final details on these provisions (dry beans are considered a vegetable).

Nonrecourse marketing assistance loans

The act provides nonrecourse marketing assistance loans for feed grains, wheat, cotton, rice and oilseeds for any participant entering into a Production Flexibility Contract. All production of loan commodities from the enrolled farm will be eligible for nonrecourse marketing loans. The legislation establishes a maximum loan rate (equal to 1995 levels) and provides conditions under which the Secretary of Agriculture may reduce loan rates.

Loan rates for corn, soybeans and wheat are to be maintained at not less than 85 percent of a simple moving average of the price received by producers in three of the previous five marketing years (highest and lowest prices excluded). Maximum loan rates during the life of the act are specified at \$1.89 per bushel for corn, \$2.58 per bushel for wheat, and a range of \$4.92 to \$5.26 per bushel for soybeans.

The Secretary is permitted to lower loan rates if carryover stocks are greater than 12.5 percent of total use in the previous marketing year for corn and soybeans, or 15 percent for wheat. The loan rate on other oilseeds will be determined by the same formula, with a maximum loan rate of 9.3 cents per pound and a minimum loan rate of 8.7 cents per pound.

As nonrecourse marketing loans, these loans can be repaid at the lesser of the loan rates or the prevailing market price determined by the Secretary. If producers repay the loan at the market price rather than the loan rate, the difference between the loan rate and the prevailing market price will be the marketing loan gain. Producers who choose to forego the loan will be eligible to receive a loan deficiency payment equal to the difference between the loan rate and the prevailing market price.

Payment limitations

Production Flexibility Contract payments, marketing loan gains and loan deficiency payments will be subject to payment limitations. Payments made under a Production Flexibility Contract will be subject to a payment limitation of \$40,000 per person. Marketing loan gains and loan deficiency payments will be subject to a payment limitation of \$75,000 per person.

Sugar program provisions

The act retains the loan rate on raw cane sugar at 18 cents per pound and the loan rate on refined beet sugar at 22.9 cents per pound. These loans will be provided as recourse loans. If the U.S. quota on sugar imports is greater than 1.5 million tons, these loans will be made available as nonrecourse loans. Domestic marketing allotments for sugar established under the 1990 farm bill will be eliminated.

The act also establishes forfeiture penalties designed to discourage the forfeiture of sugar to the Commodity Credit Corporation (CCC) under a nonrecourse loan program. Cane sugar forfeited to the CCC will be assessed a penalty of 1 cent per pound. Beet sugar forfeited to the CCC will be assessed a penalty that bears the same relative relationship as the cane sugar and processed beet sugar marketing assessments.

Marketing assessments on cane sugar and processed beet sugar will also be established. The assessments will be paid by the first processor of sugar and will equal 1.1 percent of the value of the loan rate on raw cane sugar in 1996 and 1.1794 percent of the value of the loan rate on refined beet sugar in 1996. From 1997 until 2003, the assessment on raw cane sugar will be 1.375 percent of the value of the loan rate, and the assessment on refined beet sugar will increase to 1.47425 percent.

Dairy provisions

Dairy price supports will be phased out over four years, declining from \$10.35 per cwt. in 1996 to \$9.90 per cwt. in 1999. A recourse loan of \$9.90 per cwt. will remain after 1999. Marketing orders will be reduced to no more than 14 within three years of enactment. Assessments on producers will be eliminated. The six New England states would be allowed to operate a "Northeast Compact," if USDA decides it would be in the best interest of the public.

Full funding of the Dairy Export Incentive Program is included as a requirement that the National Dairy Board use 10 percent of anticipated funds for international market development. California would be allowed to establish non-fat solids standards for fluid milk products.

Conservation provisions

The bill limits CRP enrollment to a maximum of 36.4 million acres. New CRP contract enrollments will be redirected toward priority conservation, watershed, and environmentally sensitive lands. Producers can terminate their CRP contracts on written notice by the producer, if the land has an erodibility index of 15 or less and has been in the program for at least five years. The bill also prohibits the removal of wetlands, filter strips, waterways and windbreaks.

The bill provides \$200 million for funding the Environmental Quality Incentive Program (EQIP), with half of the funds targeted toward crop producers and the remainder targeted toward livestock operations. This program provides cost-sharing assistance for animal waste management and other environmental protection investments.

The bill also contains a one-time buyout of flood-prone base acreage under provisions of the Flood Risk Reduction Act.

Summary

Operators and landowners considering participation in the new program should consider the following:

- Contract payments will provide less downside price risk protection than the target price program.
- Planting flexibility provisions will allow greater freedom in making planting decisions than existing programs.
- Rules must still be written to clarify the distribution of payments between landowners and tenants.
- The bill requires landowners and farm operators to sign a Production Flexibility Contract in 1996 if any contract payments are to be received from 1996 to 2002.
- The bill continues the Conservation Reserve Program and provides environmental cost-sharing programs for producers. ■

Table 1 — Estimated production flexibility contract payment rates

| | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---------------|------------------|------|------|------|------|------|------|
| | Cents per bushel | | | | | | |
| Corn | 0.27 | 0.52 | 0.41 | 0.39 | 0.36 | 0.29 | 0.28 |
| Wheat | 0.92 | 0.64 | 0.68 | 0.65 | 0.59 | 0.47 | 0.46 |
| Grain sorghum | 0.34 | 0.53 | 0.47 | 0.44 | 0.40 | 0.32 | 0.31 |



Livestock Outlook

Can cattle feeding be profitable?



Continued from front page

indicated that yearlings purchased in January and February were poor choices. Conversely, the same yearlings purchased in November or May were the most profitable. Even though these strategies should work on the average, in some years, losses could occur for cattle placed during the most profitable months. This strategy has the most potential for smaller feedlots that are not in the market frequently.

Historically, buying and selling cattle as often as possible has been an effective strategy by larger feedlots to moderate the volatility in cattle prices as feeder cattle and finished cattle prices usually trend

in the same direction. However, even larger feedlots may gain from reducing placement rates in lower profitability months and increasing them in higher profitability months.

- Tactically, this may not be an opportune time to stop feeding cattle or increase the days on feed by feeding higher levels of roughage. If you are stuck with high-priced feeders, you basically have two choices. Finish them as quickly as possible and repopulate with cheap feeders or feed a very inexpensive diet and extend their stay in the feedlot. Historically, the first alternative has been the most profitable. Repopulation with less expensive feeders provides the opportunity to catch the cattle market in an upward-trending market.

- Remain flexible in the type of cattle you purchase. Don't fight the market; buy what the market offers that will make a profit. Calculate your break-even so you know what sets of cattle are a good buy. Some example break-evens are shown in Table 2. Given current conditions, yearling heifers appear to offer the most profit potential.

- Focus management skills on those factors that have the greatest impact on profitability. Table 3 demonstrates that feed price and animal performance are the two most important factors.

- Sell "poor doers" and chronics when opportunity

Continued on page 5

Table 1. Estimated feedlot performance for yearling steers placed on feed at 750 lbs and fed a high concentrate ration.

| Days on feed | Weight | Current | | Cumulative | | Percent of pen grading Choice |
|--------------|--------|---------|-----------|------------|-----------|-------------------------------|
| | | ADG | Feed/gain | ADG | Feed/gain | |
| 126 | 1100 | 2.57 | 8.97 | 2.92 | 7.37 | 50% |
| 147 | 1150 | 2.46 | 9.54 | 2.86 | 7.62 | 60% |
| 168 | 1200 | 2.34 | 10.13 | 2.80 | 7.86 | 70% |
| 189 | 1250 | 2.24 | 10.74 | 2.74 | 8.11 | 77% |
| 210 | 1300 | 2.13 | 11.36 | 2.68 | 8.35 | 84% |

Table 2. Breakeven sale prices for various classes of cattle with two corn prices.

| Purchase weight, lb | Steers | | Heifers | | Holsteins | |
|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| | \$3.00/bu | \$4.00/bu | \$3.00/bu | \$4.00/bu | \$3.00/bu | \$4.00/bu |
| 350 | 62.39 | 70.38 | 63.58 | 72.04 | 64.02 | 74.37 |
| 500 | 61.40 | 68.57 | 58.85 | 66.30 | 60.61 | 69.73 |
| 650 | 60.24 | 65.85 | 57.57 | 63.95 | 58.75 | 66.98 |
| 800 | 61.19 | 66.90 | 56.02 | 61.44 | 54.75 | 62.24 |

Table 3. Effects of various economic factors on net return and break-even prices of 725 lb yearling steers.

| Economic Factors | Increased by | Impact of Changes in Economic Factors on Return and Break-Even Price | | |
|------------------|---------------------------------------------------|----------------------------------------------------------------------|--------------------------------|------------------------------------|
| | | Net Return (\$/hd) | Break-Even Sale Price (\$/cwt) | Break-Even Purchase Price (\$/cwt) |
| Sale Price | \$1/cwt | 12.50 | NR | 1.81 |
| Purchase Price | \$1/cwt | -6.90 | 0.55 | NR |
| Feed Price | \$5/cwt | -15.82 | 1.27 | -2.29 |
| Interest Rate | 1 percentage point | -3.39 | 0.27 | -0.48 |
| Yardage | \$0.05/day | -10.80 | 0.86 | -1.57 |
| Death Loss | 1 percentage point | -3.83 | 0.31 | -0.53 |
| Performance | Feed required per lb gain and days on feed by 10% | -46.06 | 3.68 | -6.64 |

Table 4. Effects of whole and dry rolled corn in high concentrate ration on cattle performance.

| | Whole-shelled | Whole-shelled and dry-rolled | Dry-rolled |
|------------------------------------------------------|---------------|------------------------------|------------|
| Colorado | | | |
| ADG, lb | 3.01* | 3.08* | 2.92* |
| DMI, lb/d | 18.0 | 17.9 | 17.5 |
| Feed/gain | 6.03* | 5.86* | 5.99* |
| Nebraska | | | |
| ADG, lb | 2.75* | 3.06* | 2.97* |
| DMI, lb/d | 16.2 | 16.5 | 17.3 |
| Feed/gain | 5.89* | 5.40* | 5.82* |
| Cost of gain, \$/cwt | | | |
| @ \$2.50/bu corn | 50.67 | 47.83 | 50.02 |
| @ \$3.00/bu corn | 56.24 | 53.10 | 55.55 |
| @ \$3.50/bu corn | 61.81 | 58.36 | 61.07 |
| @ \$4.00/bu corn | 67.38 | 63.62 | 66.59 |
| Profit if cattle are sold for: \$62/cwt ¹ | 44.50 | 62.63 | 48.38 |

¹Corn priced at \$3.50/bu. If it costs \$6.00 to roll corn, the profit values per animal for the blend and dry-rolled categories should be reduced by \$4.75 and \$10.19, respectively.
*^b (P<.05).



Serving Michigan Farm Families is Our Only Business

Since its beginning in 1971, Michigan Farm Radio Network's only objective has been to serve Michigan's farm families. This dedication to serve agriculture is shared by 29 local radio stations in Michigan. Through these stations, Michigan Farm Radio Network provides the latest in market analysis, weather and news to Farm Bureau members daily on the following stations:

| Station | City | Frequency | Morning Farm | Noon Farm |
|---------|---------------|-----------|--------------|-----------|
| WABJ | Adrian | 1490 | 5:45 am | 11:50 am |
| WATZ | Alpena | 1450 | 5:30 am | 11:30 am |
| WTKA | Ann Arbor | 1050 | 6:05 am | 12:05 pm |
| WLEW | Bad Axe | 1340 | 6:30 am | 12:50 pm |
| WHFB | Benton Harbor | | | 12:30 pm |
| WKYO | Caro | 1360 | 6:15 am | 12:15 pm |
| WKJF | Cadillac | 1370 | 5:55 am | 11:20 am |
| WTVB | Coldwater | 1590 | 5:45 am | 12:20 pm |
| WDOW | Dowagiac | 1440 | 6:05 am | 12:15 pm |
| WGHN | Grand Haven | 1370/92.1 | 5:45 am | 12:15 pm |
| WPLB | Greenville | 1380 | 6:15 am | 11:45am |
| WBCH | Hastings | 1220 | 6:15 am | 12:30 pm |
| WCSR | Hillsdale | 1340 | 6:45 am | 12:45 pm |
| WHTC | Holland | 1450 | | 12:15 pm |
| WKZO | Kalamazoo | 590 | 5:15 am | |
| WLSP | Lapeer | 1530 | 7:20 am | 11:50 am |
| WOAP | Owosso | 1080 | 6:15 am | 12:30 pm |
| WHAK | Rogers City | 960 | | 12:15 pm |
| WSJ | St. Johns | 1580 | 6:15 am | 12:15 pm |
| WMLM | St. Louis | 1540 | 6:05 am | 12:20 pm |
| WSGW | Saginaw | 790 | 5:55 am | 12:20 pm |
| WMIC | Sandusky | 660 | 6:15 am | 12:45 pm |
| WCSY | South Haven | 940 | | 12:15 pm |
| WKJC | Tawas City | 104.7 | | 12:45 pm |
| WLKM | Three Rivers | 1510/95.9 | 6:15 am | 12:15 pm |
| WTCM | Traverse City | 580 | 5:55 am | 11:20 am |

* Station signs on at different times during the year. Morning farm times change with the sign-on times.
** Station airs various farm reports between 5:30 and 6:00 a.m.
*** Station airs various farm reports between 12:00 and 1:00 p.m.
Some stations carry additional market reports throughout the market day.

We Know How Much Your Farm Means.

Attorneys Steve Rayman & Mary Hamlin have helped hundreds of Michigan farmers cope with serious financial and legal problems.

With its practice limited to bankruptcy and reorganization matters, Rayman & Hamlin handled nearly 25% of all reorganizations in West Michigan last year alone.



lawyer in West Michigan. Mary Hamlin, raised on a Michigan farm, has a focused interest in agri-law. Together, they offer the expertise you need when you need help. Call for an appointment.

Over the past decade, Steve Rayman, with 16 years of agri-business experience, has filed more business reorganizations than probably any other

RAYMAN & HAMLIN
ATTORNEYS AT LAW
303 North Rose Street
Suite 440
Kalamazoo, MI 49007
Tel 616-345-5156
Fax 616-345-5161

Table 5. Effects of different processing methods for corn on cattle performance in high concentrate rations.

| | Dry-rolled | Steam-flaked | Ensiled | Whole-shelled |
|-------------------------------------------------------|------------|--------------|---------|---------------|
| No. of trials | 38 | 8 | 56 | 15 |
| No. of cattle | 1104 | 314 | 1762 | 490 |
| Roughage level, % | 12.4 | 15.9 | 12.0 | 12.4 |
| Grain level, % | 80.2 | 71.9 | 81.0 | 77.3 |
| ADG, lb | 2.99 | 2.89 | 2.84 | 2.87 |
| DM intake, lb/d | 19.91 | 18.82 | 18.92 | 19.28 |
| Feed/gain | 6.74 | 6.50 | 6.70 | 6.68 |
| Calc. ME, Mcal/lb | 1.49 | 1.55 | 1.51 | 1.50 |
| Breakeven, \$/cwt ¹ | 61.82 | 61.00 | 61.68 | 61.61 |
| Cost of gain, \$/cwt ^{1,2} | 67.17 | 65.88 | 67.67 | 67.33 |
| Amount you could afford to pay to process corn, \$/bu | | | | |
| @ \$2.50/bu corn | .023 | .100 | -.028 | 0 |
| @ \$3.00/bu corn | .019 | .117 | -.028 | 0 |
| @ \$3.50/bu corn | .015 | .132 | -.030 | 0 |
| @ \$4.00/bu corn | .011 | .148 | -.030 | 0 |

¹No processing charge allocated toward the feed or yardage.

²Corn priced at \$3.50/bu.

Adopted from Owens (1987)

Continued from page 4

arises. Strategies for "topping" pens are important. Send the cheaters (poor doers, etc.) as soon as they reach Select quality grade.

- There is a big incentive with high corn prices to keep pens "topped off." Producing cattle that possess a higher percentage of Choice vs. Select quality grade than the minimum market specifications can be costly (Table 1). Efficiency of conversion decreases with time on feed even though the percent Choice increases. Unless you are bid more for the extra grade, feeding to a higher percentage of Choice will not be cost-effective.

Nutrition

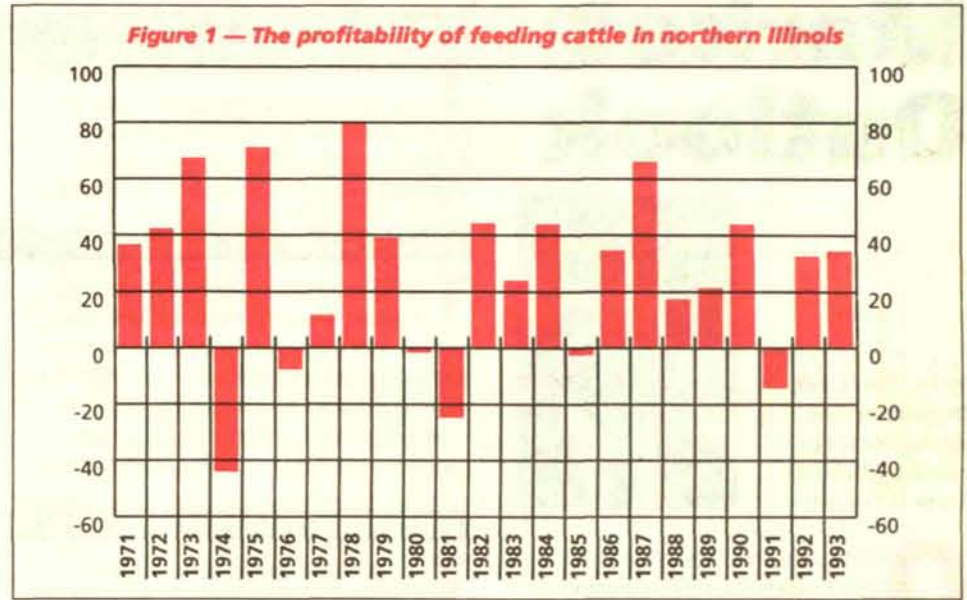
- Make sure you have an ionophore in your diet to make efficient use of the corn. Ionophores increase the feed efficiency by 5 to 10 percent. With \$3.80 corn, that's \$17-34 per steer.
- Formulate your diets to contain 11 to 12 percent crude protein. Have the protein level of your corn tested as some has been found to be low (i.e., less than 8.9 percent).
- Make sure your cattle are on an implant program.
- Try to feed a blend of grain types to improve feed conversion efficiency. The goal is to spread the digestion of the grain over a longer time period. For example, feed a wet and dry corn blend together. Another possibility is to feed corn with two different particle sizes (i.e., dry-rolled and whole-shelled) as shown in Table 4. In this analysis, cattle fed the blend provided \$14.25 and \$18.13 more profit than cattle fed either whole-shelled or dry-rolled corn as the sole grain source.
- Exploit opportunities to utilize co-product feedstuffs from the food milling and processing industries. Be sure to price these products on a dry matter basis. Don't utilize those co-products that lower the net energy content of the diet significantly.
- Feeding fat may be a profitable alternative to corn. You can add up to 4 percent fat to the diet without interfering with cattle performance. The current price of fat is \$0.21/lb. or \$0.13/Mcal of net energy for gain as compared to corn at \$0.10/Mcal (i.e., \$3.90/bu.). For fat to be competitive, it would need to be priced at \$0.16/lb. or less.
- Intensify feed bunk management skills to prevent feed spoilage. Attempt to maintain as consistent a daily feed delivery as possible.

Yardage

- Increase the level of management in bunker silos and stockpiled feeds to minimize spoilage. Keep the face of bunker silos fresh by removing a minimum of 3 to 4 inches from the face each day. In some cases, only removing ensiled feedstuffs from a portion of the silo will reduce the amount of face exposure and eliminate spoilage.
 - Extensive processing of the grain may not be cost-effective. A comparison of what you can afford to pay to process corn is shown in Table 5. In this analysis, whole-shelled corn was used as the standard to compare other processing methods. To justify rolling corn, it would need to be done for less than 2.3 cents per bushel. If one assumes a steer will eat 58 bushels or 1.62 tons of corn, one can afford to pay \$1.33/ton to roll it. Most industry estimates assume a charge of \$6/ton to roll corn. Another factor to consider when rolling corn is the decreased value as the price of corn increases because the increased feed costs overcome the smaller yardage costs.
- Steam-flaking corn is worth 14.8 cents/bu. or \$5.28/ton when corn is priced at \$4/bu. Industry averages for steam-flaking are near \$15/ton. Feeding ensiled, high moisture corn actually costs 3 cents/bu. or \$1.07/ton. However, there is a savings in drying cost. From this summary, it doesn't appear that rolling or steam-flaking corn is cost-effective.

Long-term outlook

The profitability of feeding cattle in northern Illinois (DeKalb, 1996) has been highly volatile, but on average, it's been profitable (Figure 1). This region, which is representative of the Michigan industry, has experienced a pattern of large profits following periods of losses. If this historical trend continues, profits should be realized during portions of the next two years. Additionally, there is strong evidence that feedlots in Michigan can compete with mega-sized feedlots in the High Plains. This competitive edge is generally provided by less



expensive grain prices.

The cattle feeding industry is on the precipice of major change during the next 10 years. How the finished cattle are sold will change drastically toward value-based marketing. Cattle that don't fit market specifications will be severely discounted. Tracking systems will be implemented that allow identification of superior cattle and which cow-calf producers own them.

Additionally, many forms of vertical coordination will take place within the industry. Strategic alliances between cattle feeders and packers will be

developed to meet niche markets. Arrangements between cow-calf and stocker operators and cattle feeders will assist in improving the percentage of cattle to meet specifications for these niche markets.

This period of transition or change creates many opportunities for astute managers. Cattle feeders who have keen management skills and good records will find expansion profitable. Mediocre managers who don't have the benefit of record-keeping systems will struggle and eventually exit the business. ■



**YOU DON'T
HAVE TO
WAKE UP
EARLY
TO GET A
GREAT DEAL!**

JUST ASK ALAMO.SM

With Alamo's great rates, quality cars, and friendly service, members will always wind up getting more for their travel dollar...no matter what time it is! For reservations, call your Professional Travel Agent, access us at <http://www.goalamo.com> or call Alamo Rent A Car. Be sure to request I.D. Number 223212 and Rate Code **BY**.

1-800-354-2322

© 1996, Alamo Rent-A-Car, Inc.

1039-2-296

15% OFF WEEKEND RENTAL

Certificate is valid for 15% OFF Alamo's low basic rate on a weekend rental. Just rent a compact, midsize or fullsize car for 3 or more days in the U.S.A. or Canada. • Your car must be picked up after 12 noon on Thursday and returned before 12 noon on Monday and must be kept over Saturday night, or higher rates will apply. • Only one certificate per rental; not to be used in conjunction with any other discounted, promotional or convention rates, or an Alamo Express PlusSM rental. • Please make your reservation at least 24 hours before arrival and be sure to request Coupon Code P55B. • Travel Agents: Please include /SI-C-P55B in the car sell. • Due to high demand, this offer is subject to availability at time of reservation and may not be available during peak periods and holidays. • You must present this certificate at the Alamo counter on arrival and it is void once redeemed. • Certificate may only be applied toward the basic rate, which does not include taxes, governmental surcharges or airport access fees, if any, fuel, or any optional items. • Certificate has no cash value and any unused portion is non-refundable. Reproductions will not be accepted and expired or lost certificates cannot be replaced. • Subject to Alamo's standard rental conditions at the time of rental. • Offer valid through December 15, 1996.

For reservations, call your Professional Travel Agent, access us at <http://www.goalamo.com> or call Alamo Rent A Car at 1-800-354-2322. Be sure to request I.D. Number 223212 and Rate Code **BY**.

P55B



© 1996, Alamo Rent-A-Car, Inc.

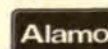
1039-2-296

25% TOWARDS AN UPGRADE

Certificate is valid for 25% TOWARDS UPGRADE charges to a higher car category. Just reserve a compact car or above for up to 14 days in the U.S.A. or Canada. • Only one certificate per rental; not to be used in conjunction with any other discounted, promotional or convention rates, or an Alamo Express PlusSM rental. • Please make your reservation at least 24 hours before arrival and be sure to request Coupon Code UB85. Travel Agents: Please include /SI-C-UB85 in the car sell. • Due to high demand, this upgrade offer is subject to availability at time of rental, as certain car categories may be sold out. Offer may not be available during peak periods and holidays. • You must present this certificate at the Alamo counter on arrival and it is void once redeemed. • Certificate has no cash value and does not include taxes, governmental surcharges or airport access fees, if any, fuel, or any optional items. • Any unused portion is non-refundable and reproductions will not be accepted. Expired or lost certificates cannot be replaced. • Subject to Alamo's standard rental conditions at the time of rental. • Offer valid through December 15, 1996.

For reservations, call your Professional Travel Agent, access us at <http://www.goalamo.com> or call Alamo Rent A Car at 1-800-354-2322. Be sure to request I.D. Number 223212 and Rate Code **BY**.

UB85



© 1996, Alamo Rent-A-Car, Inc.

1039-2-296

Market Outlook

by Dr. Jim Hilker, Department of Agricultural Economics, Michigan State University



On March 29, the USDA released three major reports that will have a major affect on all five of the commodities that we cover in "Market Outlook." The reports are the *Quarterly Grains Stocks Report*, the *Hogs and Pigs Report*, and the *Prospective Plantings Report*. And last week, on March 22, a *Cattle-On-Feed Report* was released.

In tables 1-3 we show the USDA's March 12 Supply/Demand projections 1994-95 and 1995-96 crop years for corn, wheat and soybeans, and my projections for the 1996-97 crop year. The USDA reports mentioned previously, could cause some substantial modifications of these projections. You need to determine how the reports will affect the projections. The USDA will not update their projections until April 11; they will appear in the April 30 edition. I will modify my projections for the next issue. You don't have to project the number changes, but rather the direction it will change them.

Seasonal Commodity Price Trends

| | |
|----------|-----|
| Corn | ↔ ? |
| Soybeans | ↔ ? |
| Wheat | ↔ ? |
| Hogs | ↔ ↓ |
| Cattle | ↔ |

Index: ↔ = stable prices; ↑ = higher prices; ↓ = lower prices; TP = topping; BT = bottoming; ? = unsure

GRAIN STOCKS REPORT

The *Grain Stocks Report* will help determine how much grain has disappeared up to this point. This should help answer the question of whether or not the market has begun to ration supplies. This is especially important for corn since

this is our only source for estimating feed use to this point. Exports continue to be strong and we see little or no rationing. Check and see how the actual numbers differed from trade expectation to help determine direction.

HOGS AND PIGS REPORT

The *Hogs and Pigs Report* will help determine how many hogs we have on hand and how many we are likely to have through this marketing year and into the next. This will help to project feed use from this point on. It should also help determine whether the hog futures prices have been correct and whether pork production this summer

and fall will not be up, or whether the USDA's December *Hogs and Pigs Report*, and the low sow slaughter we have seen for months are correct, pushing pork production up sharply. If the latter is true, it will cause a sharp drop in futures. Sow slaughter in February was up slightly and appears to be picking up as a percent of total slaughter.

PROSPECTIVE PLANTING REPORT

The *Prospective Planting Report* will give us the information we need to correct the 1996-97 acres planted in the third column of all three tables below. Replace my numbers, subtract off the same difference to get harvested acres, multiply the yield and check to see how it affects the total production number.

three bushels per acre.

Depending on moisture levels in Kansas, Oklahoma and Texas the past two weeks, the wheat yield may need to be changed. If rains have been plentiful and widespread, leave the yield the same; if moisture has been short, lower yields by up to

The USDA announced the sign-up for early release from CRP after the prospective planting survey was completed, which means the numbers may grow by planting. However, it was known the USDA would have some type of early-out program before the survey was taken. There are 15.2 million acres eligible for early-out. The estimates range from 1.1-2.2 million acres that will be planted this spring. My estimates call for about 1 to 1.5 million acres being planted to a combination of crops, mainly feed grains and spring wheat.

CATTLE-ON-FEED REPORT

Check to see what the *Cattle-on-Feed Report* showed. Were placements relative to last year down for the second month in a row? Were marketings strong? How many are on-feed? These questions are important for both the crop and livestock producers. The on-feed and placement numbers should help us get a better handle on feed disappearance from now up to the new harvest.

Weights are still above year ago levels, but have dropped sharply from the first of the year. The placements and on-feed numbers will help determine this summer's supply. Will we drop back under \$60?

The marketing number tells us how current we

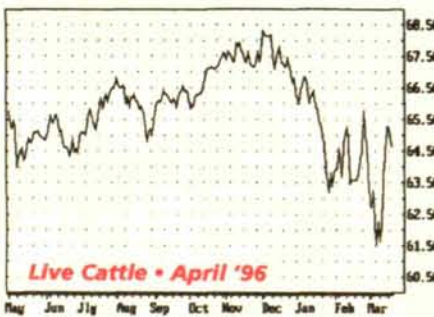
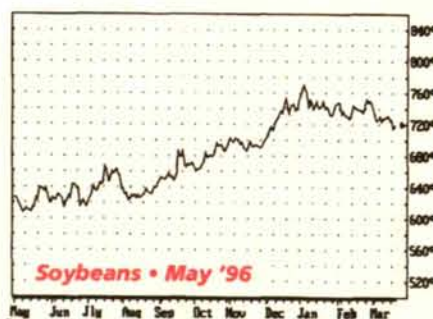
If the reports cause rallies in grains or hogs, consider your pricing opportunities and make some moves. Also, reanalyze your pricing goals, regardless of whether the information is bullish or bearish.

1997 NEW CROP PRICING OPPORTUNITIES?

One last suggestion — Check the December 1997 corn futures contract; and the November 1997 soybean contract, they look pretty good to me.

That's without any rolling of contracts and the corresponding spread risks — just the price you see minus your normal basis and basis risks.

COMMODITY PRICE TRENDS



COMMODITY SUPPLY/DEMAND BALANCE SHEETS

Table 1 — Corn

| (Million acres) | Projected 1994-1995 | Projected 1995-1996 | Hilker's Proj. 1996-1997 |
|---------------------------------|---------------------|---------------------|--------------------------|
| Acres set-aside/diverted | 2.4 | 6.2 | |
| Acres planted | 79.2 | 71.2 | 81 |
| Acres harvested | 72.9 | 65.0 | 75 |
| Bu./harvested acre | 138.6 | 113.5 | 126.5 |
| Stocks (million bushels) | | | |
| Beginning stocks | 850 | 1,558 | 412 |
| Production | 10,103 | 7,374 | 9,488 |
| Imports | 10 | 15 | 10 |
| Total supply | 10,963 | 8,947 | 9,910 |
| Use: | | | |
| Feed and residual | 5,535 | 4,600 | 4,900 |
| Food/seed & ind. uses | 1,693 | 1,685 | 1,750 |
| Total domestic | 7,228 | 6,285 | 6,650 |
| Exports | 2,177 | 2,250 | 2,250 |
| Total use | 9,405 | 8,535 | 8,900 |
| Ending stocks | 1,558 | 412 | 1,010 |
| Ending stocks, % of use | 16.6 | 4.8 | 11.3 |
| Regular loan rate | \$1.89 | \$1.89 | |
| U.S. season average | | | |
| Farm price, \$/bu. | \$2.26 | \$3.20 | \$2.60 |

Table 2 — Wheat

| (Million acres) | Projected 1994-1995 | Projected 1995-1996 | Hilker's Proj. 1996-1997 |
|---------------------------------|---------------------|---------------------|--------------------------|
| Acres set-aside & diverted | 5.2 | 5.2 | |
| Acres planted | 70.3 | 69.2 | 73 |
| Acres harvested | 61.8 | 61.0 | 64 |
| Bu./harvested acre | 37.6 | 35.8 | 38 |
| Stocks (million bushels) | | | |
| Beginning stocks | 568 | 507 | 346 |
| Production | 2,321 | 2,185 | 2,432 |
| Imports | 92 | 70 | 82 |
| Total supply | 2,981 | 2,762 | 2,860 |
| Use: | | | |
| Food | 852 | 860 | 870 |
| Seed | 89 | 106 | 110 |
| Feed | 345 | 175 | 200 |
| Total domestic | 1,286 | 1,141 | 1,180 |
| Exports | 1,188 | 1,275 | 1,250 |
| Total use | 2,474 | 2,416 | 2,430 |
| Ending stocks | 507 | 346 | 430 |
| Ending stocks, % of use | 20.5 | 14.3 | 17.4 |
| Regular loan rate | \$2.58 | \$2.58 | |
| U.S. season average | | | |
| Farm price, \$/bu. | \$3.45 | \$4.45 | \$4.00 |

Table 3 — Soybeans

| (Million acres) | Projected 1994-1995 | Projected 1995-1996 | Hilker's Proj. 1996-1997 |
|---------------------------------|---------------------|---------------------|--------------------------|
| Acres planted | 61.7 | 62.6 | 63.1 |
| Acres harvested | 60.9 | 61.6 | 62.3 |
| Bu./harvested acre | 41.4 | 34.9 | 37.0 |
| Stocks (million bushels) | | | |
| Beginning stocks | 209 | 335 | 200 |
| Production | 2,517 | 2,152 | 2,305 |
| Imports | 5 | 5 | 5 |
| Total supply | 2,731 | 2,492 | 2,510 |
| Use: | | | |
| Crushings | 1,405 | 1,370 | 1,380 |
| Exports | 838 | 810 | 810 |
| Seed, feed & residuals | 153 | 112 | 110 |
| Total use | 2,396 | 2,292 | 2,300 |
| Ending stocks | 335 | 200 | 210 |
| Ending stocks, % of use | 14.0 | 8.7 | 9.1 |
| Regular loan rate | \$4.92 | \$4.92 | |
| U.S. season average | | | |
| Farm price, \$/bu. | \$5.48 | \$6.80 | \$6.85 |

Enterprise accounting — maximizing your profit potential

Let's say you're a hog producer operating a farrow-to-finish operation. Do you have any idea what it costs to produce a feeder pig? Do you know for sure what it costs to finish that feeder pig? Should you focus on finishing hogs or farrowing sows?

As a cattle producer, do you know what it costs to raise a feeder calf? Based on your operation's past data, should you sell that feeder calf and sell cash corn, or retain ownership and finish that calf out using your corn?

Undoubtedly, most producers have confronted these questions themselves recently as they struggle with high feed costs and depressed markets. Mike Fassler, vice president of Salisbury Management in Eaton Rapids, suggests that the questions would be considerably easier to answer if those producers were using enterprise accounting.

Enterprise accounting, simply stated, means breaking your operation down into various commodities or "enterprises" to separate and identify your true cost of production and consequently, your returns. You can even go a step farther, says Fassler, and break each enterprise down into a more defined component.

"You can get as detailed as you want to, but don't get too complicated too fast or you'll end up with information overload," Fassler cautioned. "But if you're a pork producer, you could break the whole pork enterprise down into each production stage to determine what it costs to produce a weaned pig, a feeder pig and then eventually, a finished hog."

What's more important than understanding the concept of enterprise accounting is how you interpret and use the data, especially over a number of years. Once enterprise accounting has been designed and implemented, management decisions and strategies can be made based on concrete information from your actual operation, instead of relying on industry averages.

"When we hit a time like we have right now in the livestock industry, the guys that have some sort of enterprise accounting system online are able to make better decisions — whereas the guys that need to make a decision but can't because their lacking information, are playing catch-up during a crisis time point," Fassler said. "The time to really implement a system is before you really need it."

When working with his clients on setting up an enterprise accounting system, Fassler attempts to have all of the questions answered and the program ready to start with the beginning of the new calendar or fiscal year. Using a standard format as a starting point, Fassler and the farmer-client then go through and modify the program to meet the particular needs of that operation.

Although a computerized bookkeeping system is not a necessity, Fassler recommends one, since it makes the data retrieval so much quicker and easier. Fassler also recommends a double entry accounting system to improve the accuracy of enterprise accounting.

Managers need to be convinced that the data obtained from enterprise accounting will be worth the added bookkeeping and frustration to be successful, stresses Fassler, particularly when attempting to allocate costs on major capital items such as tractors and other pieces of equipment.

Fassler generally recommends going through the depreciation schedule and making estimates on pieces of equipment that may be difficult to allocate to just one enterprise. Producers may also want to consider logging hours and on-the-go recordkeeping to keep track of actual hours used on respective enterprises. As an added measure, Fassler will often compare producer allocations for equipment use against standardized data available from MSU's Telfarm annual reports to see if the allocation percentages are similar.

"Cost allocation is really key to this whole concept, because your allocations will have a lot to do with the end results," warned Fassler. "If you don't have a reasonable and accurate way of doing the allocations, the results aren't going to be all that meaningful."

Source: Knight Ridder Financial

Source: USDA and Jim Hilker

Determining your crop mix in '96

by Gerry Schwab and Roy Black

As the Spring planting season rapidly approaches, hope springs eternal. There are some solid reasons for optimism but also some concerns about the future. The time appears to have arrived for those farmers producing crops and desiring fewer restrictions on what to plant, with the demise of crop acreage bases (CAB) and acreage set-asides in the acreage reduction program (ARP).

Assuming that some version of the Agricultural Market Transition Act (more commonly referred to as the "Freedom to Farm" bill) has been approved by the time you read this, farmers will have the opportunity to plant without the restriction of CAB that is now called your contract acreage (CA). It is to this question of "what to plant?" that we now turn.

Institutional Restrictions on "What to Plant"

The rules and restrictions under the Freedom to Farm Bill are expected to be less restrictive than those to which we have previously adopted. Land owners and operators will have the opportunity in April '96 to sign up for the "Market Transition Contract" (MTC) payments to be paid over a 7-year time period.

For those choosing to participate in this one-time window of opportunity, there are some limited restrictions on what to plant. Restrictions include: haying and grazing acreage cannot exceed 15 percent of your CA without reducing your contract payment; fruits and vegetables can be grown only on CA in areas that have a history of double cropping; and participants must continue to comply with the provisions of the Soil and Water Conservation Plan drawn up for your own farm.

Other Restrictions and Considerations on "What to Plant"

Agronomic and other physical feasibility considerations, such as machinery and labor capacity to plant within the desired time window, will influence your crop acreage mix in '96. The need to manage the soil profile for disease and pest management, herbicide carryover, etc., can also limit your feasible set of cropping alternatives in your crop rotation system.

Given these considerations that are unique to each farm situation, we now turn to what the market is telling us in terms of what to plant.

In a free enterprise economy that has become even freer with the "Freedom to Farm" orientation, economic signals provided by the marketplace in the form of prices become preeminent in determining what to do. The flexibility to plant without restrictive CAB increases the available opportunities but also increases the risk of failure as we now operate without the marketing management safety net provided by government deficiency payments of the past.

The "what to do" list should include a management plan that incorporates decision criteria on what to plant and discipline on when to price.

You should address the "what to plant?" question using a budgeting analytical process. The illustration will be for the corn-soybean crop alternatives but could be used for comparing any appropriate set of cropping alternatives. We will call corn our DEFENDER crop and soybeans our CHALLENGER crop. The question then becomes, "What soybean yield/price combination is required to bid land away from corn?"

Presumably, one important decision criterion for every farmer is the need to earn a profit. One of the important steps in developing our plan for "What to Plant?" is the need to develop enterprise budgets to compare the returns for each relevant enterprise. Preparation of enterprise budgets includes estimation of prices and honestly realistic yield estimates for 1996 (based on historical yield records for your farm).

You'll also need your input costs. Table 1 illustrates one estimate of costs and returns per acre for corn and soybeans. Input costs are sorted into pre-harvest and harvest and include only those costs that are expected to differ between the enterprises being compared. Land cost, for example, is not included as it would not vary because of the crop being produced.

For the example presented in Table 1, the Gross Margin (the return over variable costs) presented as the bottom line indicates soybeans to be more profitable and capable of bidding land away from corn. However, we know with certainty that the '96 future will not unravel exactly as depicted in Table 1. So the question might be, "What yield or price of the challenger crop, soybeans, is needed to compete (break-even) with the defender crop, corn in this example?"

The process to calculate break-even yields and prices of the challenger crop is illustrated in the worksheet. For the example situation as described, soybeans yielding 40 bushel per acre at the break-even price of \$5.96/bu will compete with corn yielding 130 bu/acre priced at \$2.70/bu. Or alternatively, soybeans that can be priced at \$6.75/bu will require a break-even yield of 35.3 bu/acre to compete with the corn enterprise as described.

Table 2 presents a matrix of break-even soybean prices for alternative sets of soybean-corn yield combinations. If, for example, you believed that the relevant yield set for your farm was a 140 bu corn yield in comparison to a 40 bu soybean yield, the break-even price for soybeans to compete with corn, with the production costs as described would be \$6.53/bu. A soybean price higher than those in Table 2 for the relevant yield combinations would favor more acres into soybeans.

Table 3 presents a matrix of break-even soybean yields for alternative sets of soybean-corn price combinations where the base yield ratio of corn to soybean is 3.25; i.e., 130 bushel corn yield potential in relation to 40 bushel soybean yield potential. For example, if your planning prices, possibly already locked in, were \$7.05 per bushel of soybeans and \$2.90 per bushel of corn; the break-even yield for soybeans to challenge corn for planted acreage is 37.4 bushels per acre.

Continued on page 8

Table 1 — Estimated Gross Margin Budget for Corn and Soybean*

| | | CORN | | SOYBEAN |
|-----------------------------------------------------------------|----------|----------|----------------------|----------|
| Expected yield | bu/acre | 130 | | 40 |
| Expected price | \$/bu | \$2.70 | | \$6.75 |
| Expected Gross Revenue | \$/Acre | \$351.00 | | \$270.00 |
| Pre-Harvest Variable Costs | \$/Acre | | | \$/Acre |
| Seed | | \$30.00 | | \$17.00 |
| Fertilizer: | | | | |
| N | 150 lbs. | 30.00 | Starter 3-15-40 + Mn | 10.50 |
| Starter 10-50-0 | 100 lbs. | 25.00 | (100 lbs) | ? |
| Potash | 120 lbs. | 13.20 | | |
| Weed Control: | | 25 | | 35 |
| Fuel | | 9.5 | | 7.85 |
| Repairs | | 21 | | 18.6 |
| Interest on Pre-harvest Variable Costs | | 6.90 | | 4.00 |
| Total pre-harvest Variable Costs | | \$160.60 | | \$92.95 |
| Harvest Costs | | 22 | | 21 |
| Custom Rate | | | | |
| Drying & Marketing Costs | \$/bu | \$2.00 | \$2.20/bu | \$2.00 |
| Sum of Pre-harvest & Harvest Cost | | \$234.60 | | \$121.95 |
| Gross Margin (Return to fixed and other inputs as labor & land) | | \$116.40 | | \$148.05 |

Appreciation is expressed to Ned Birkey and Natalie Rector, MSU Extension Agricultural Agents, for their contribution in preparing these enterprise budgets.

LAST YEAR WE FINANCED 17 MILLION ACRES,
ONE SQUARE FOOT AT A TIME.



What will it take to be profitable tomorrow? It's the question on a lot of farmers' minds these days.

And at Farm Credit Services, we know there's no easy answer.

But when they're looking to make their farms more profitable through innovative real estate financing, more producers turn to us.

As they've discovered, no other lender works with you more closely

to understand your operation. Or can tailor repayment schedules to fit.

And by going the extra mile for our customers, we've grown to be the country's largest farm lender.

For more information on our full range of products and services, call 1-800-444-FARM.

Farm Credit Services

At the heart of a growing America.

Determining your crop mix in '96, continued

Table 2 — Break-even Soybean Price (Challenger)

| Corn PRICE | Soybean YIELD (Bu/Acre) | | | | | |
|----------------------|-------------------------|--------|--------|--------|--------|--------|
| | 30 | 35 | 40 | 45 | 50 | |
| \$ 2.70/Bu. | | | | | | |
| | \$/Bu. | | | | | |
| Corn YIELD (bu/acre) | 110 | \$6.34 | \$5.47 | \$4.81 | \$4.30 | \$3.89 |
| | 120 | 7.11 | 6.12 | 5.38 | 4.81 | 4.35 |
| | 130 | 7.88 | 6.78 | 5.96 | 5.32 | 4.81 |
| | 140 | 8.64 | 7.44 | 6.53 | 5.83 | 5.27 |
| | 150 | 9.41 | 8.1 | 7.11 | 6.34 | 5.73 |
| | 160 | 10.18 | 8.75 | 7.68 | 6.85 | 6.19 |

Table 3 — Break-even Soybean Yield (Challenger) with 3.25 Corn:Soybean Yield Ratio

| Corn YIELD | Soybean PRICE (\$/Bu) | | | | | |
|--------------------|-----------------------|--------|--------|--------|--------|--------|
| | 130 Bu./Acre | \$6.15 | \$6.45 | \$6.75 | \$7.05 | \$7.35 |
| | Bu/Acre | | | | | |
| Corn PRICE (\$/bu) | \$2.30 | 30 | 28.5 | 27.2 | 26 | 24.9 |
| | \$2.50 | 34.3 | 32.7 | 31.2 | 29.8 | 28.6 |
| | \$2.70 | 38.7 | 36.9 | 35.3 | 33.6 | 32.2 |
| | \$2.90 | 43.1 | 41 | 39.1 | 37.4 | 35.9 |
| | \$3.10 | 47.5 | 45.2 | 43.1 | 41.2 | 39.5 |

Table 4 — Break-even Soybean Yield (Challenger) with 3.5 Corn:Soybean Yield Ratio

| Corn YIELD | Soybean PRICE (\$/Bu) | | | | | |
|--------------------|-----------------------|--------|--------|--------|--------|--------|
| | 140 Bu./Acre | \$6.15 | \$6.45 | \$6.75 | \$7.05 | \$7.35 |
| | Bu/Acre | | | | | |
| Corn PRICE (\$/bu) | \$2.30 | 33.2 | 31.6 | 30.1 | 28.8 | 27.6 |
| | \$2.50 | 37.9 | 36.1 | 34.4 | 32.9 | 31.5 |
| | \$2.70 | 42.6 | 40.5 | 38.7 | 37 | 35.4 |
| | \$2.90 | 47.3 | 45 | 43 | 41.1 | 39.3 |
| | \$3.10 | 52 | 49.5 | 47.2 | 45.2 | 43.3 |

Continued from page 7

Table 4 presents data similar to Table 3 with the exception that the base yield ratio of corn to soybeans is relatively higher at 3.5; i.e. 140 bu/acre corn yield relative to a 40 bu/acre soybean yield. As the relative corn yield to soybean yield increases, the greater is the yield requirement for soybeans to compete. For the price set discussed in the previous paragraph of \$7.05/bu corn and \$2.90/bu, the break-even yield for soybeans to compete with 140 bu/acre corn yield increases to 41.1 bushels per acre.

As the planting season progresses, the expected yield relationships between competing crops can change. In the corn:soybean situation, as we get later into the planting season the expected yield for an earlier planted crop as corn may decline, whereas

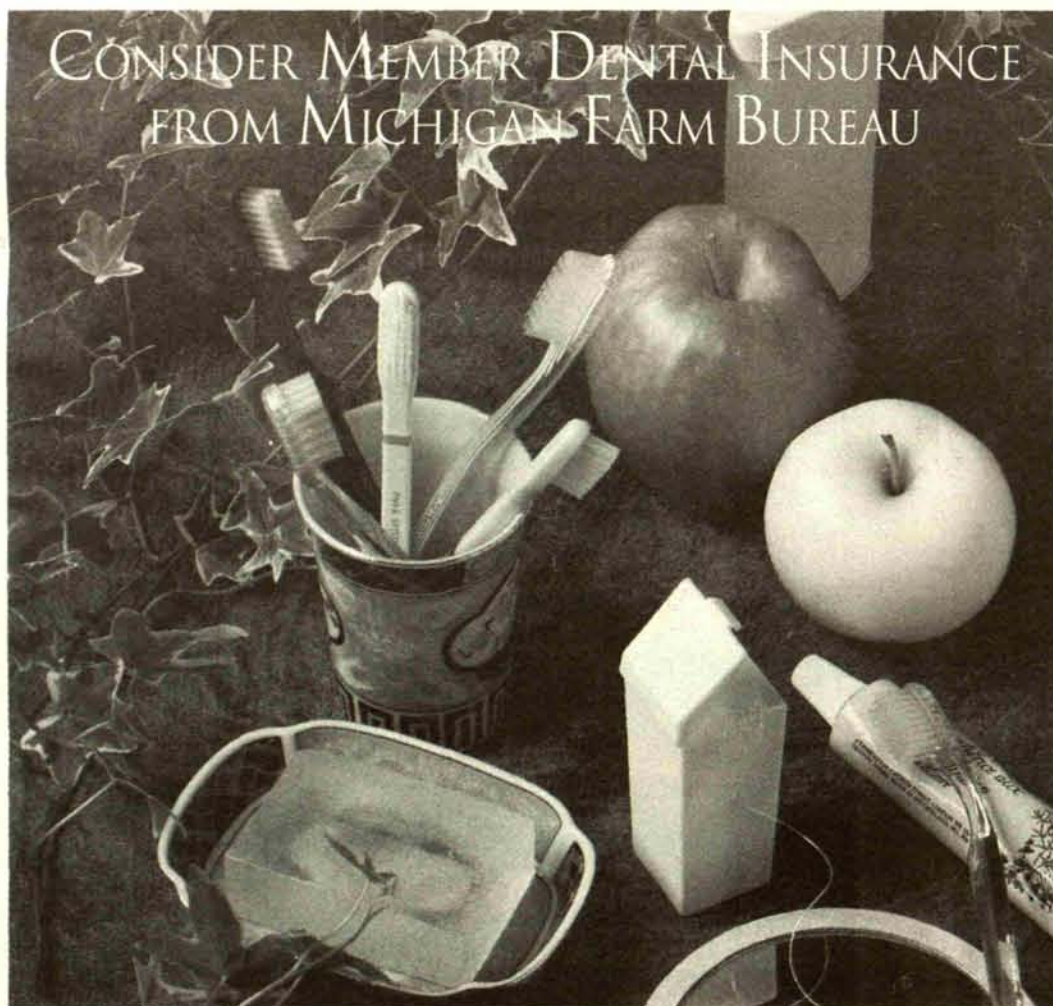
soybeans may just be entering their optimal planting time and the corn:soybean yield ratio will decline. So, in the event of a late spring or planting delayed from the optimal dates, you may need to rethink your estimated break-even yields in order to adapt to the situation as it evolves.

Summary

The cropping decision mix in '96 has fewer institutional restrictions and possibly more lucrative forward pricing opportunities than in previous years. These institutional changes have lowered the risk management safety net provided to farmers. This situation creates the need for farm managers to plan ahead by evaluating their crop mix alternatives, and associated costs of production, and implement a risk management plan that might lend discipline to their marketing activities.

This paper has focused primarily on a budgeting procedure to evaluate pairs or sets of cropping alternatives in addressing the question of "what to plant in '96." Let us be proactive in managing the farm business and plan to be successful in 1996. ■

TAKE THE BITE OUT OF DENTAL CARE COSTS



Member dental insurance is the affordable way to assure that you and your family receive the dental care services you require — even when sudden and costly needs arise.

Measure the rates against your annual dental care bills and consider the advantage!

Single: \$18.90 per month • Two-person: \$33.60

Family: \$43.05

MICHIGAN FARM BUREAU

TO RECEIVE ADDITIONAL INFORMATION AND A BROCHURE/APPLICATION, PLEASE FILL OUT THE COUPON BELOW
OR CALL DIRECT 1-800-292-2680, EXT. 3237

Please mail to: Michigan Farm Bureau
Membership Services
P.O. Box 30960
Lansing, MI 48909

Please Print

Name _____

Address _____

City _____

State _____

ZIP _____

Phone _____

County _____

Breakeven Analysis for Comparing Alternative Crops Worksheet

| Defender Crop <u>Corn</u> | |
|---------------------------------------------------------------------|------------------|
| 1. Yield <u>130</u> bu/A | <u>130</u> |
| 2. Price, \$ <u>2.70</u> /bu | <u>2.70</u> |
| 3. Gross Revenue (GR = Y × P) (Line 1 × Line 2) | <u>\$ 351.00</u> |
| Variable Costs | |
| 4. Preharvest Costs \$/A | <u>160.00</u> |
| 5. Harvest Costs \$/A | <u>22.00</u> |
| 6. Drying and Marketing Costs a. \$ <u>0.40</u> /bu b. <u>52.00</u> | <u>52.00</u> |
| 7. Sum of Variable Costs (VC = Line 4 + Line 5 + Line 6b) | <u>\$ 234.00</u> |
| 8. Return to Fixed Costs (RTFC = GR - VC) | <u>\$ 116.40</u> |

| Challenger Crop <u>Soybeans</u> | |
|---------------------------------------------------------------------|------------------|
| Variable Costs | |
| 9. Preharvest Costs \$/A | <u>82.95</u> |
| 10. Harvest Costs \$/A | <u>21.00</u> |
| 11. Drying and Marketing Costs a. \$ <u>0.20</u> /bu b. <u>0.00</u> | <u>0.00</u> |
| 12. Sum of Variable Costs (VC = Line 9 + Line 10 + Line 11b) | <u>\$ 121.95</u> |

To bid land away, Return to Fixed Costs Challenger must be greater than Return to Fixed Costs Defender

To Calculate the Breakevens of the Challenger

Breakeven Price = (VC Challenger + RTFC Defender) ÷ Yield Challenger

13. Yield of Challenger 40 bu/A
14. a. \$ 6.96 = (b. 121.95 + c. 116.40) ÷ d. 40 bu/A

Breakeven Yield = (VC Challenger + RTFC Defender) ÷ Price Challenger

15. Price of Challenger \$ 6.75/bu
16. a. 36.3 bu = (b. 121.95 + c. 116.40) ÷ d. \$ 6.75/bu

Source: Hilker, J., J. Black and O. Hesterman. Break-Even Analysis for Comparing Alternative Crops. Extension Bulletin E-2021, Michigan State University, 1987

Hog market outlook for 1996?

Continued from front page

showing a slight seasonal gain during the summer months. Prices next fall may decline to the mid-30s per cwt. based on current production estimates.

Lower retail prices are likely for 1996 thanks to increases in both pork and competing meat production. Retail prices averaged \$1.95 in 1995, compared to \$1.98 a year earlier. Despite large drops in live animal prices, retail prices are expected to only drop 1 cent per pound, meaning that the farm-retail spread will widen considerably. ■

Custom feedlots — are they for you?

Last fall's feeder calf price had many feeder calf producers contemplating retained ownership in an attempt to garner a better return. Whether that strategy turns out to be the right one or not, many of those feeder calf producers looked to custom feedlots as a means of finishing out their feeders.

According to Dave Stoneman, interest in using custom feedlots was the highest it had ever been last fall. Stoneman, along with brothers Bill, Tim, John and father Dale, operates Stoneman Farms, which includes 3,000 acres of corn, soybeans, sugar beets, and a 1,500 head custom feedlot operation. "We had to turn cattle away last fall because we didn't have any room left," he said.

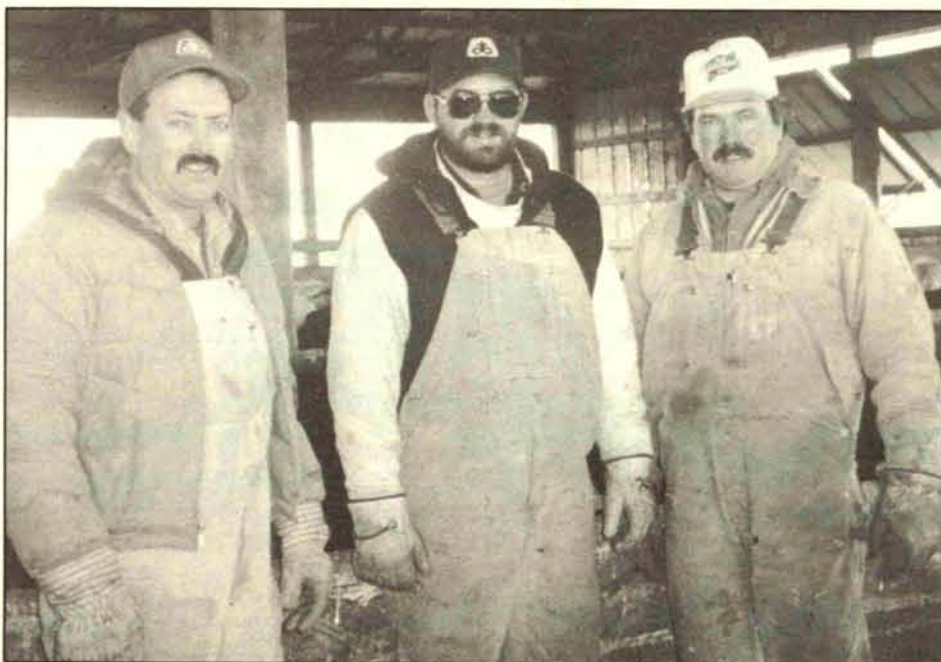
The Stoneman operation started experimenting with custom feeding cattle in the mid-'80s. After getting the system fine-tuned and firmly established, the operation phased out feeding their own cattle and concentrated solely on custom feeding.

"We felt we did a good job of feeding cattle, and we saw this as an opportunity to help reduce and manage our risk," Stoneman explains. "With custom feeding, we have a pretty good idea what we're going to be making on those cattle."

Stoneman charges a daily yardage fee of 25 cents per head, plus the cost of feed. Owners are billed on a monthly basis for the yardage fee and feed costs for their respective pen of cattle. The only variable, Stoneman explains, is the percent of space utilized. Feedlots are generally at full capacity during the winter months, while the feedlots may only operate at 60 to 70 percent of capacity during the summer months.

The Stoneman operation's 1,500-head capacity is spread over three different locations, with room for approximately 700 head on slatted floors. Typical pen size is roughly 80 head, although groups as small as 65 head will be accepted, depending on space availability. Pen size is critical since all cattle are kept separate for ease of recordkeeping and calculating daily feed consumption and costs.

"We have the capability to track our feed costs and to bill owners on a monthly basis," Stoneman explained. When a pen of cattle is finished and shipped, the owner is provided with a "close-out"



Above left to right: Dave, John and Tim Stoneman, along with brother, Bill, and father, Dale, operate a 1,500-head custom feedlot operation in Gratiot County.

report generated off a computer, that shows average in-weight, average selling weight, average daily gain, feed consumption per head, and days on feed. The computer program also allows entering interest rates for owners who are operating on borrowed money, and/or opportunity costs for those operating on a cash basis. Finally, the close-out report calculates average cost per pound of gain, and return on investment.

Unfortunately, escalating feed costs have pushed the average cost per pound of gain, which includes the yardage fee, from 45 cents to nearly 70 cents, says Stoneman. The rations generally consist of 80 percent shelled corn, and some corn silage, billed at \$20 per ton. They've started using cottonseed in recent months since it's high in energy, fat and fiber.

Although the Stonemans grow corn in their cash crop rotation, their corn is generally sold through normal channels. Corn fed to the cattle is

bought back to keep costs and enterprises separated. Although their local cooperative, B&W Cooperative, offers producers an opportunity to lock in their feed costs, that decision rests with the owner of the cattle, says Stoneman.

Medicine and vet costs, like the feed, are passed on at cost, directly to the owner. In dealing with death losses, Stoneman says the owner of the cattle stands the loss on the first 2 percent, while the Stonemans stand the cost on the third percent. Losses on anything over 3 percent reverts back to the owner. The average death loss has been held at 1 percent, and generally attributed to respiratory complications.

Although custom feedlots generally don't stand any of the death loss, Stoneman says the fact that they're willing to stand a percentage of the loss puts their clients more at ease and confident that their cattle will get the best care possible. "The structure that we use provides an incentive to us, and it encourages the owner to send us healthy cattle," he advised.

Almost all of the cattle fed out through the Stoneman operation are colored cattle, with very few holsteins put through the facility. Although weights have ranged from 550 pounds to as high as 950 pounds, the operation will typically feed yearlings.

Cattle are generally fed a minimum of 120 days, says Stoneman. "Anything fed less than 120 days just doesn't have the chance to grade as good," he said. Working with the Michigan Livestock Exchange's St. Louis facility, most cattle are shipped direct to packers including Ada Beef, IBP or MOPAC.

Is a custom feedlot a viable option? Although the timing may not be the best to do so for some producers, there may be an opportunity for others in the near future, depending on the corn market. "Nobody had any idea that the corn market would do what it's done. But this (custom feeding) is just another way to extend that marketing window and hopefully, make better money on fed cattle," Stoneman concluded. ■

Custom Feedlots In Michigan

| | | |
|--------------------------|--------------|----------------|
| Jeff Baker | St. Louis | (517) 681-2047 |
| Gordon Briggs | Scottville | (616) 757-3118 |
| Scott Carey | Alma | (517) 463-2372 |
| Al Hass | Bad Axe | (517) 269-8679 |
| Holdwick Farms | Harbor Beach | (517) 479-6398 |
| Mackinac Land and Cattle | Whittemore | (517) 756-2783 |
| Jerry Peterson | Harbor Beach | (517) 479-6455 |
| Stoneman Farms | Breckenridge | (517) 842-5461 |

Fertilizer Institute launches campaign

The Fertilizer Institute recently launched a campaign to increase awareness about potential criminal misuse of agricultural products. The campaign, "Be Aware for America," targets retailers and is comprised of three main messages: protect your product, know your customers and call authorities if you view any suspicious activity.

"Be Aware for America" consists of a poster, brochure, video and a special toll-free telephone number that can be used by retailers to report any suspicious activities. ■

The cards of choice.

Whether you want a PPO, HMO, or Managed Traditional health care plan...

Whether you want dental, vision, or prescription drug benefits...

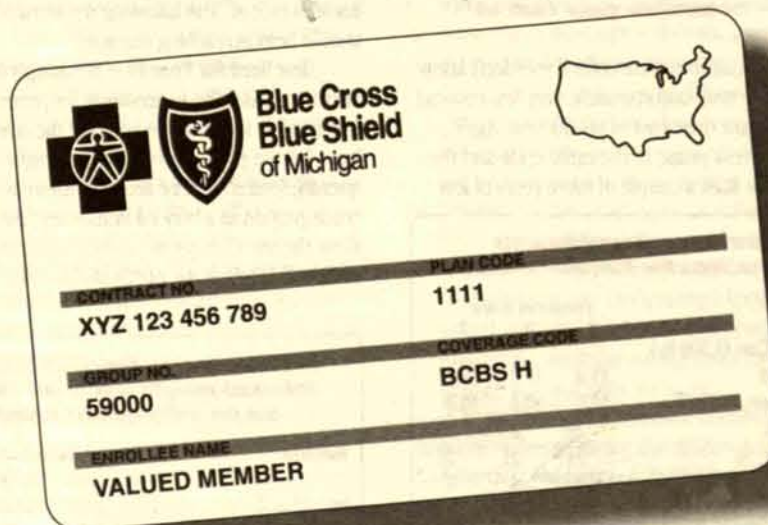
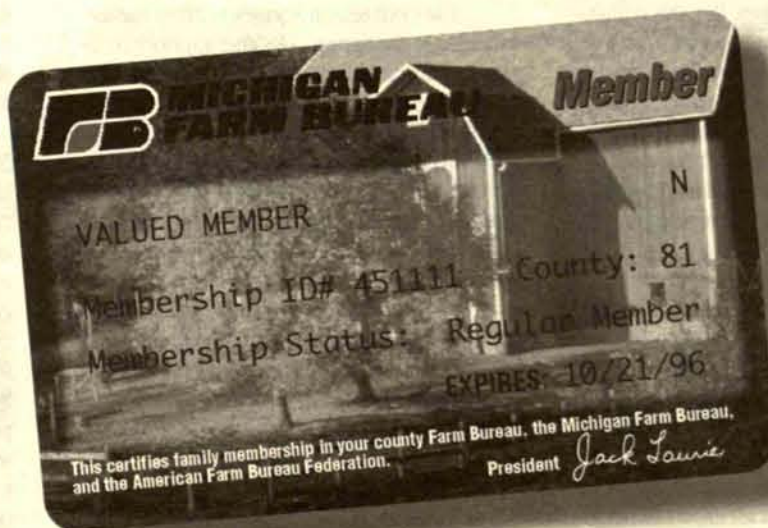
Whether you want a basic, no-frills plan or first dollar coverage...

You can get it from Farm Bureau and Blue Cross Blue Shield of Michigan.

Choice of plans, choice of doctors and hospitals, choice of coverage and choice of service.

With Blue Cross and Farm Bureau, the choice is yours.

For more information, call your county Farm Bureau office, contact your nearest Farm Bureau Insurance agent, or call 800-292-2680, ext. 3240 or 3239.



**Blue Cross
Blue Shield
Blue Care Network
of Michigan**

Independent licensees of the Blue Cross and Blue Shield Association

10 steps to cutting cow-calf costs

by Danny D. Simms, Kansas State University

Why place so much emphasis on cutting costs?

During the past few years, economists and animal scientists from several states have studied the differences between high- and low-profit cow-calf producers. Invariably, these studies have shown that the following factors have the greatest impact on profitability.

- Cost of production
- Reproductive rate
- Weaning weights

And of these, the factor with the greatest impact on profitability is the cost of production. Correspondingly, these studies have shown that the factor that producers emphasize the most (weaning weight) accounts for very little difference between high- and low-profit groups. In other words, producers generating the most profit are those who minimize costs and still produce at moderately high levels.

Why isn't weaning weight a better predictor of profitability?

As noted, many cow-calf producers using weaning weight as an indicator of profitability assume that increased production through larger calves translates into higher profits. While this seems logical, the fact is that additional pounds of weaning weight are worth much less than most cattle producers assume. Let's take a closer look at the value of additional weaning weight.

The value of additional weaning weight

Many producers use the current market price of calves as the value of additional weaning weight. This assumption is incorrect because it fails to consider the normal decrease in price as calves get heavier.

Remember, there are "no free lunches" in the cattle business. All increases in production come at some cost. Unfortunately, some of these costs are hidden or difficult to measure. For example, increases in growth rate of calves can be accomplished by increasing the growth rate and milking ability of the cows in the herd, but these cows will require more feed and put more grazing pressure on pastures—costs which many producers ignore or under-value.

The example above assumes the normal relationship where the value per pound declines as calves get larger. This relationship exists because the cost of gain in the feeding phase has usually been below the value of a finished animal. However, currently, the high price of grain relative to cattle prices and the depressed fat cattle market have resulted in larger calves being worth almost the same per pound as small calves. But, this is probably short term (until the next good grain crop) situation. And since changes in levels of production in a cow herd tend to take considerable time, producers must build their production system on the typical situation where there is a negative price margin.

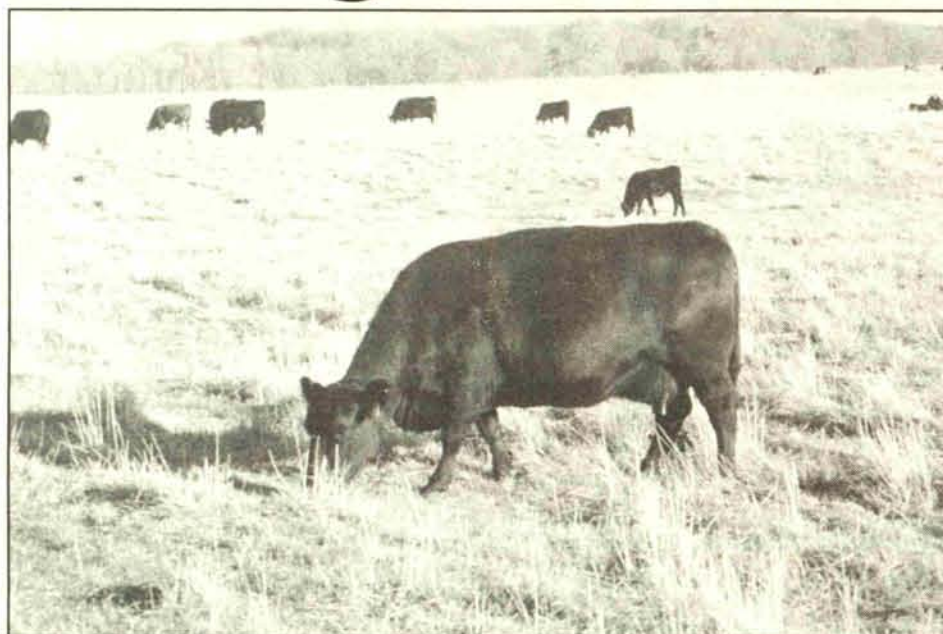
In summary, the industry has emphasized increased weaning weight for many years, but it is clearly time that efficiency is emphasized rather than maximum production. This is especially true since we are in the down phase of the cattle cycle where it will be difficult to cover even the cash costs of production.

Reducing feed costs — the key to profitability

A review of the typical costs associated with a cow-calf enterprise clearly indicates that feed cost is one of the few cost items where changes can be implemented that have a significant impact on net returns. Thus, many of the following 10 steps outline changes that have the goal of reducing feed costs.

Step 1 — Determine your cost of production

It is difficult to reduce costs if you don't know what they are. And, unfortunately, very few cow-calf producers know their cost of production. Again, given the current phase of the cattle cycle and the outlook for at least a couple of more years of low



prices, it is imperative that you determine your cost of production.

As a minimum, you should determine your feed costs on a per-cow basis since, as noted, this is the most important category. Experience has shown that many producers are surprised by the magnitude of their expenditures for protein and mineral supplements as well as total feed costs. Again, feed cost is the one with the most potential for improvement in most operations.

Step 2 — Minimize the use of harvested forages

The previously mentioned studies on the factors influencing profitability indicate that high-profit producers employ management practices that reduce the amount of harvested forages used by the cow herd. This goal can be accomplished by implementing one or more of the following practices:

Maximize the use of crop residues — Crop residues are typically the cheapest feedstuff utilized during the year. Consequently, making maximum use of this resource is essential to maximizing profitability in many cases. Maximizing the use of this resource requires matching the number of animals in the herd to the amount of crop residue available rather than to the amount of pasture available.

When considering crop residue as it relates to your operation, keep in mind that there are many variables that must be considered; however, the concept of minimizing costs through maximizing the use of crop residue should always improve profitability.

Use Cool Season Forages to Allow Earlier Grazing in the Spring — Another approach to reducing harvested forage utilization is to take advantage of the early growth of cool season forages such as wheat pasture, brome or fescue.

Sell High Value Roughages and Replace Them with Low Cost Roughages — Cost/return analyses of cow herds have shown that producers often fail to consider the opportunity cost of high quality forages. For instance, producers often consider only the cost of production of such feedstuffs as alfalfa hay, rather than its market value. In other words, when alfalfa hay can be sold for \$80-100 per ton, it should be sold and a lower quality roughage utilized with the cow herd.

Step 3 — Optimize the Use of Protein Supplements

For many producers, protein supplements represent the major "out-of-pocket" feed expense. Consequently, getting the most "bang-for-your-buck" is crucial. The following recommendations should help in reaching this goal:

Test Feed for Protein — It is simply impossible to minimize the expenditure for protein supplements while meeting the needs of the cows without knowing the protein level of base forages. Consequently, feed should be analyzed for moisture and crude protein as a very minimum because this will allow the use of minimal protein supplementation while still meeting the needs of the cows.

Consider the Stage of Production of the Cows

— The energy protein requirements for a beef cow vary tremendously during the year based on pregnancy and lactation. For instance, a cow in late gestation requires approximately 1.5 pounds of CP while a lactating cow requires at least 2.25 pounds. This variation means that you must consider the stage of production when developing a ration for cows.

Use Natural Protein Sources with Low Quality Forages — Numerous research trials have shown that non-protein nitrogen sources, such as urea and biuret, aren't utilized effectively when fed to cows consuming low-quality forages. Consequently, protein supplements for use with these forages should contain little, if any, of these protein sources.

Price Supplements on a Price Per Pound of Protein Basis — When shopping for the "best buy" in protein sources, compare them on a cost per pound of protein basis as long as they are all natural protein sources. For example, which is the better buy — alfalfa hay (18% CP) at \$70/ton or SBOM (45% CP) at \$230/ton? The protein in the alfalfa costs 360/\$75 = \$.194/pound, while the protein in the SBOM costs 900/\$230 = \$.256/pound.

Consider Non-traditional Protein Sources — Minimizing costs often means evaluating such non-traditional protein sources as whole soybeans, field bean screenings, sunflower meal, wheat middlings, soyhulls, and other by-products as protein sources. The price and availability of by-products should be constantly monitored, since their value tends to fluctuate wildly. However, they are often excellent buys compared to traditional feedstuffs.

Step 4 — Minimize expenditures for the health program

Many health-related expenditures such as vaccinations are analogous to buying insurance. Surveys of Kansas beef cow operations have shown a low incidence of several of the diseases for which vaccines are available. While the cost per head for all health-related expenditures on most operations is not large, even this cost category should be scrutinized for possible items that could be reduced. However, it should be pointed out that the risk of disease problems could be increased by minimizing the health program. Consequently, you must evaluate your willingness to accept this risk in light of the economic outlook. To aid in the development of a minimal program, the following guidelines are offered:

A Minimal Health Program for the Cow Herd

Implement a face and horn fly control program for all ages:

Mature Cows

- Vaccinate for Lepto and Vibrio
- Treat for lice and grubs

Yearling Heifers

- Vaccinate for Lepto and Vibrio
- Vaccinate for IBR-BVD prior to breeding
- Treat for lice and grubs
- Deworm using a broad spectrum product

Nursing Calves

- Vaccinate for the Blackleg Complex (7-Way) at

2-3 months

- Pre-condition with IBR-BVD prior to weaning if they are to be retained after weaning

Replacement Heifer Calves

- Vaccinate for Blackleg Complex (7-Way) at weaning
- Vaccinate again for IBR-BVD at weaning
- Treat for lice and grubs at weaning and repeat if necessary
- Vaccinate for Bangs
- Deworm using a broad spectrum product

Bulls

- Treat for Lice and Grubs in the Fall and repeat if necessary
- Lepto and Vibrio

As you will note, this health program minimizes the number of vaccinations given and deworms only the young animals. These recommendations are based on the fact that research hasn't shown deworming of mature animals to be profitable on most cow-calf operations.

Additionally, in herds where few animals are introduced (other than bulls), there is probably little need for all of the vaccinations often given. As a note of caution, you should include vaccinations for any disease problem that has occurred on your operation in the past. If you feel that deworming is necessary, use one of the less expensive products rather than the expensive, convenient products; however, make sure that it is a broad spectrum product.

Step 5 — Maximize the use of bulls

Historically, the recommendations for the bull/cow ratio has been 1:25. However, in typical conditions, i.e., relatively small pastures, a mature bull can easily handle 40-45 cows.

Simply changing the ratio from 1:25 to 1:40 can result in a \$9-12 decrease in the cost per cow, but it should be pointed out that this increase should only be done with mature bulls in good condition that have undergone a Breeding Soundness Exam by a veterinarian.

While this recommendation is made for mature bulls, correspondingly, yearling bulls can probably be expected to breed 25 cows under normal conditions. Additionally, these recommendations shouldn't be implemented when bulls of varying ages are placed in the same breeding pasture. For example, a yearling bull in a pasture with a mature bull will probably not have an opportunity to breed very many cows which will greatly increase the number of cows the mature bull must breed.

Step 6 — Minimize expenditures for mineral supplements

Cost/return analyses of Kansas cow/calf operations have shown that some producers are spending over \$30 per cow on mineral supplementation. The cost of mineral supplements should be less than \$7 per cow. Again, too many producers don't know how much they are spending on mineral supplementation. In many situations, mineral is being fed when it isn't needed and/or consumption is much higher than needed.

The following guidelines are provided to aid in reducing mineral costs:

- Research has shown that cows don't have the ability to balance their diet to meet mineral requirements. Thus, the common belief that cows eat mineral because they need it is false — they typically eat mineral because they want the salt or because it tastes good because of a flavoring agent. Thus, meeting mineral requirements at minimal cost requires management of both the concentration of minerals in the supplement and intake.
- Analyze major feedstuffs for Phosphorus — A determination of the P level in basal forages is essential to minimizing mineral costs. In a few areas in the state, the copper and molybdenum levels might also be valuable.

As a general rule, the P level in most harvested forages is adequate for non-lactating beef cows. Conversely, the P level in dry, winter grass and crop residues is usually inadequate. Consequently, the

Continued on page 11

Nutritional Requirements Specifications for Mature Cow Diets

| Nutrient | Condition Score | | |
|-------------------------------------------------|-----------------|------|------|
| | 4 | 5 | 6 |
| Pregnant Cow (1,300 lb.) | | | |
| NE _m , Mcal/d | 11.4 | 10.3 | 9.2 |
| Crude Protein, % | 10.0 | 10.0 | 10.0 |
| Calcium, % | .26 | .23 | .20 |
| Phosphorus, % | .21 | .21 | .20 |
| Potassium, % | .6 | .6 | .6 |
| Lactating Cow (1,300 lb., heavy milking) | | | |
| NE _m , Mcal/d | 16.0 | 15.5 | 15.0 |
| Crude Protein, % | 12.0 | 11.5 | 11.0 |
| Calcium, % | .36 | .36 | .36 |
| Phosphorus, % | .26 | .26 | .26 |
| Potassium, % | .6 | .6 | .6 |

Growing Ration Specifications for Selected Weight Gains (all values are on a dry matter basis)¹

| Nutrient | Expected ADG, lb. | | |
|---------------------------|-------------------|------|------|
| | 1.25 | 1.75 | 2.25 |
| NE _m , Mcal/lb | .57 | .62 | .68 |
| NE _p , Mcal/lb | .31 | .40 | .52 |
| Crude Protein, % | 10.5 | 11.0 | 11.3 |
| Calcium, % | .32 | .37 | .43 |
| Phosphorus, % | .19 | .21 | .23 |
| Potassium, % | .6 | .6 | .6 |

¹Average frame, 600 lb. steer.

Diet Specifications for Replacement Heifers

| Nutrient | Frame Size | | |
|---------------------------|------------|-----|-----|
| | 4 | 5 | 6 |
| NE _m , Mcal/d | 9.4 | 9.4 | 9.4 |
| NE _p , Mcal/lb | 2.4 | 2.4 | 2.4 |
| Crude Protein, % | 8.5 | 9.0 | 9.5 |
| Calcium, % | .32 | .29 | .27 |
| Phosphorus, % | .21 | .21 | .21 |
| Potassium, % | .6 | .6 | .6 |

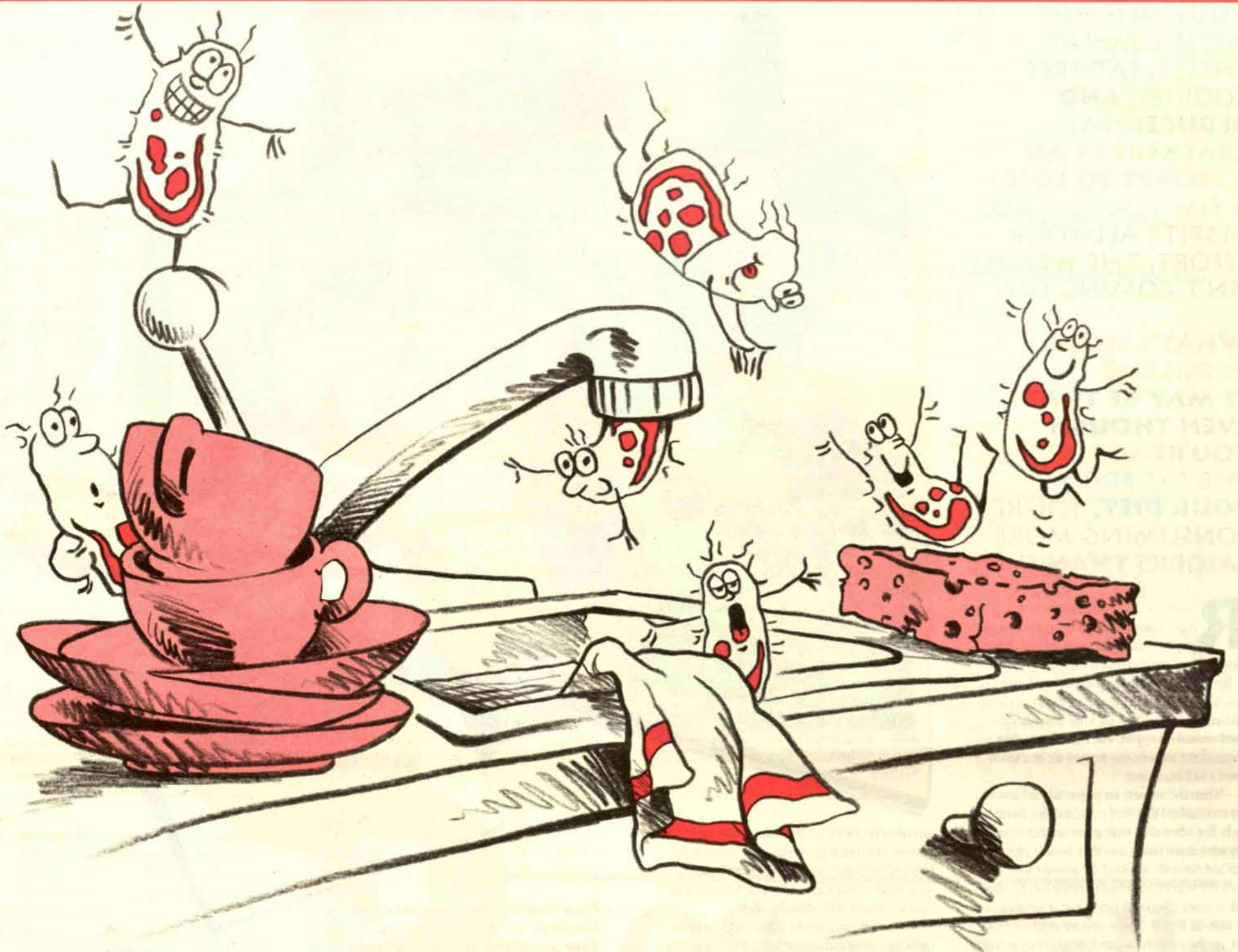
Assume a daily weight gain of 1.5 lb.

Finishing Ration Specification for Selected Weight Gains (all values are on a dry matter basis)¹

| Nutrient | Expected ADG, lb. | | |
|---------------------------|-------------------|------|------|
| | 2.00 | 2.60 | 3.00 |
| NE _m , Mcal/lb | .64 | .70 | .77 |
| NE _p , Mcal/lb | .48 | .58 | .64 |
| Crude Protein, % | 11.0 | 11.5 | 12.0 |
| Calcium, % | .28 | .37 | .45 |
| Phosphorus, % | .20 | .23 | .26 |
| Potassium, % | .6 | .6 | .6 |

¹Average frame, 700 lb. steer.

HEALTH HARVEST



Is your kitchen a playground for germs?

Ah, the crisp spring air, the rebirth of the growing season, the start of another battle with the great outdoors — it's spring cleaning time again! But wait, before you grab your wash bucket, rakes and wheelbarrows, take a look at the area you spend at least part of your day in every day — the kitchen — and be sure it's free of harmful germs that could halt your prowess with the pruning shears.

According to University of Arizona at Tucson researcher Charles Gerba, the kitchen is the most germ-laden room in the house. To validate his theory, Gerba studied 200 sponges collected from homes around the Miami area and found that 20 percent or one out of five sponges contained *staphylococcus* or *salmonella* — the two leading causes of food-borne illness in America.

Bacteria themselves are tiny creatures, most ranging from 1 to 10 micrometers (1 micrometer equals $\frac{1}{25,000}$ inch), and are extremely variable in the ways they obtain energy and sustenance. They can be found in nearly all environments — from air, soil,

water and ice to hot springs; even the hydrothermal vents on the deep ocean floor are the home of sulfur-metabolizing bacteria.

Could your kitchen be an innocent incubator for a bacterial infection? According to Gerba, sponges are the greatest culprit for bacterial cross-contamination. "People will wipe down one area, then wipe another with the same sponge," elaborates Gerba. "If they are wiping up raw meat blood, then use the same sponge to wipe something else, they can spread the fecal *coliform* bacteria that is found on meat and poultry."

Here are some tips, based on Gerba's research, for keeping your kitchen sparkling clean and healthier for you and your family:

- Always wash your hands before you start cooking, immediately after handling raw meat, after you finish cooking and before you wipe counters. Using an anti-microbial soap and drying your hands thoroughly with paper towels increases the protective power of hand washing.
- Designate separate food preparation areas: one

for preparing uncooked meat, another for preparing produce and other foods that will not be cooked, and one for slicing meat after it is cooked. Each area should have its own cutting board and a separate set of utensils.

- Raw meat is the largest single source of germs and bacteria in the kitchen. Although proper cooking will kill most harmful bacteria, using a common preparation area can spread bacteria to other foods, cooked and uncooked.
- Cook food thoroughly and eat it as soon as possible after preparation. Some researchers believe nearly all food poisoning could be prevented by always eating foods within 90 minutes of preparation.
- Refrigerate leftovers as soon as possible and always reheat thoroughly before eating. The notion of letting foods cool before refrigerating is a holdover from the days of ice chests, when hot leftovers would cause the ice to melt quickly.
- Buy antibacterial sponges. Ordinary sponges have 450 times the number of germs as antibacterial

ones. If you use an ordinary sponge or dishcloth, disinfect it regularly in a mixture of bleach and water, and wash it in the dishwasher every day.

- Rinse dishes thoroughly after washing and allow them to air dry whenever possible. If you dry dishes with a towel, be sure the towel dries completely between uses and launder it frequently. A damp dish towel can grow and spread germs just like a dishcloth or ordinary sponge.
- Designate separate sponges for different cleaning tasks: one for doing dishes, one for wiping counters, one for kitchen floors, one for cleaning the bathroom, etc. Designating a sponge for each job will help reduce the risk of spreading germs. Assigning a particular sponge color to each job is an easy way to avoid confusion.

Even the most immaculate kitchen can be guilty of underestimating the resiliency of bacteria by forgetting the basics of disinfection and cross-contamination. Fight the bacteria battle and win in your own kitchen — but don't let your guard down or they'll be back! Now get back to that spring cleaning... ■

LOW-FAT MIND GAMES

YOU'VE STOCKED YOUR KITCHEN WITH LOW-FAT CHEESE, FAT-FREE COOKIES, AND REDUCED-FAT CRACKERS IN AN ATTEMPT TO LOSE A FEW POUNDS. BUT DESPITE ALL YOUR EFFORT, THE WEIGHT ISN'T COMING OFF.

WHAT'S THE PROBLEM? IT MAY BE THAT EVEN THOUGH YOU'RE SKIMMING THE FAT FROM YOUR DIET, YOU'RE CONSUMING MORE CALORIES THAN EVER.

Researchers at Penn State University recently demonstrated the point when on separate days they gave several dozen women one of three different types of yogurt: low-fat, low-calorie; low-fat, high-calorie; and high-fat, high-calorie. Half of the women's yogurts were labeled either low- or high-fat while the other received unmarked yogurt. The researchers then measured the amount the women ate at a lunch served a half-hour later.

When the women ate yogurt labeled low-fat, they rationalized that they could indulge more at lunch. But when they were given unlabeled yogurt, they were more tuned into their bodies' physical cues and naturally adjusted the amount they ate. When the women ate yogurt labeled low-fat, they took in more calories at lunch than when they ate the high-fat yogurt. Those who ate unlabeled yogurt, on the other hand, ate fewer calories at lunch after eating the high-calorie yogurt, even the low-fat, high-calorie version.

"In the past few years there has been an explosion in the number of fat-free and reduced-fat products in the supermarket, leading people to believe that if they watch the amount of fat they eat, they can ignore calories," explains Dr. Barbara Rolls, one of Penn State's researchers.

Reducing the amount of fat, especially



saturated fat, helps in the battle against heart disease, but counting calories still counts in the battle of the bulge. So, if losing or maintaining your weight is your goal, check both the fat and calorie content of the foods you eat.

The following shows many lower-fat items chalk up just as many calories as, if not more than, their regular counterparts.

- Keebler Club Partners — Original Crackers, ½ oz., 70 cal.
Keebler Club Partners Reduced Fat — Original Crackers, ½ oz., 70 cal.
- Peter Pan Peanut Butter, 2 tbs., 190 cal.
Peter Pan Smart Choice Reduced Fat Peanut Butter Spread, 2 tbs., 190 cal.
- Kudos Whole Grain Bars— Chocolate Chunk, 1 bar, 90 cal.
Kudos Low Fat Whole Grain Bars, Strawberry, 1 bar, 90 cal.
- Heinz Homestyle Roasted Turkey Gravy, ¼ cup, 25 cal.
Pepperidge Farm 98% Fat-Free Seasoned Turkey Gravy, ¼ cup, 30 cal.
- Jell-O Instant Pudding and Pie Filling (using skim milk) — Milk Chocolate, ½ cup, 140 cal.
Jell-O Free Fat-Free Instant Pudding and Pie Filling (using skim milk) — Chocolate, ½ cup, 140 cal.
- Campbell's Homestyle Chicken Noodle Soup, ½ cup, 70 cal.
Campbell's Healthy Request 97% Fat Free Chicken Noodle Soup, ½ cup, 70 cal.
- Keebler Butter Knots Pretzels, 7 pretzels, 1 oz., 100 cal.
Keebler Fat-Free Knots Pretzels, 7 pretzels, 1 oz., 110 cal.

Immunization Record

Use this chart or an official immunization card to keep track of your child's immunizations. Significant reactions should be recorded and reported to your health care provider immediately.

In recent reports, the state of Michigan ranks in the lowest percentile in the number of children immunized each year. Your child needs immunizations; the shots protect your child from many serious diseases. Use this chart to track immunizations your child needs and the ages when your child should receive them. Immunizations should be given at the recommended ages — even if your child has a cold or minor illness at the time. Ask your health care provider about when your child should receive these important shots. Ask also if your child needs additional immunizations.

By ensuring that your child gets immunized on schedule, you can provide the best defense against dangerous childhood diseases. Childhood immunization means protection from nine major diseases: hepatitis B, polio, measles, mumps, rubella (German measles), pertussis (whooping cough), diphtheria, tetanus (lockjaw), and Haemophilus influenzae type b (a bacterium that can cause such serious infections as meningitis and pneumonia).

Source: U.S. Department of Health and Human Services, Public Health Service and the American Academy of Pediatrics.

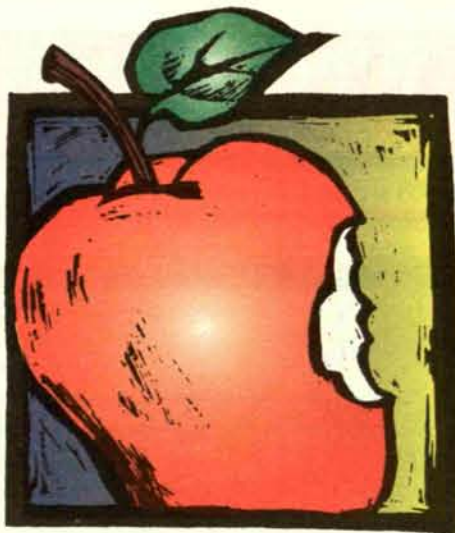
| Type of Immunization | | Enter dates, name/initials of provider, and other information below | | | | | |
|------------------------------------------------|-----------------|---------------------------------------------------------------------|-------------------|----------------|--------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Polio (OPV) | Recomm. ages | 2 months | 4 months | 6 months | | | 4-6 years |
| | Dates received | | | | | | |
| | Provider/clinic | | | | | | |
| Diphtheria, Tetanus, Pertussis (DTP, DTaP, Td) | Recomm. ages | 2 months | 4 months | 6 months | 15 months | 4-6 years | 14-16 years |
| | Dates received | | | | | | |
| | Provider/clinic | DTP | DTP | DTP | DTaP or DTP | DTaP or DTP | Td |
| Measles, Mumps, Rubella (MMR) | Recomm. ages | | | | 12-15 months | | 4-6 or 11-12 years |
| | Dates received | | | | | | |
| | Provider/clinic | | | | | | |
| Haemophilus Influenzae Type b (Hib) | Recomm. ages | 2 months | 4 months | 6 months | 12-15 months | | *PRP-OMP is one type of Hib vaccine that is given only at 2 months, 4 months, and 12-15 months; other Hib vaccines are given at 2 months, 4 months, 6 months, and 12-15 months. |
| | Dates received | | | | | | |
| | Provider/clinic | Type: | Type: | (Not PRP-OMP)* | Type: | | |
| Hepatitis B (HBV) | Recomm. ages | Birth or 1-2 months | 1-2 mos. or 4 mos | | 6-18 months | | |
| | Dates received | | | | | | |
| | Provider/clinic | | | | | | |
| Chickenpox (VZV) | Recomm. ages | | | | 12-18 months | | |
| | Dates received | | | | | | |
| | Provider/clinic | | | | | | |

15 TIPS TO EATING MORE FRUITS, VEGETABLES AND GRAINS



1. Experiment with unfamiliar vegetables and fruits. Try collards, kale, red leaf lettuce, broccoflower, dandelion greens, jicama, mango, kiwi, starfruit and lots more!
2. Prepare your own "fruit-sicles" easily. Combine fruit juice and small chunks of fruit, pour into a paper cup, add a popsicle stick and freeze until firm.
3. Make a refreshing, lower-calorie beverage by mixing fruit juice with seltzer water and crushed ice.
4. Give tofu and other soy products a try. They are a good source of vegetable protein and contain phytochemicals which may reduce cancer risk.
5. Boost the fiber in your favorite breakfast cereal by sprinkling on a teaspoon or two of unprocessed bran or adding some 100% bran cereal. Be sure to drink plenty of fluids when increasing the fiber in your diet.
6. Turn baked potatoes into a main dish by topping with reduced-fat cheese and a generous helping of steamed fresh broccoli. Or top with a mixture of black beans, browned ground turkey breast, corn and salsa.
7. Experiment with a variety of flavored vinegars on salads or in other dishes — a splash of raspberry vinegar on greens, or a tad of balsamic vinegar on a brown rice salad with chopped fresh tomatoes and basil leaves.
8. Substitute evaporated skim milk for whipping cream in many recipes.
9. In many recipes, you can replace each ounce of unsweetened chocolate with three tablespoons unsweetened cocoa powder for the same flavor without the fat.
10. Much of the fat in cake comes from the frosting. Top instead with slices of fresh fruit, fruit sauce or a sprinkle of powdered sugar.
11. Replace mayonnaise on sandwiches with mustard or salsa for a fat-free taste sensation.
12. At salad bars, skip over the mayonnaise-laden salads and oily marinated beans. Emphasize fresh greens and vegetables with fat-free or reduced-fat dressing.
13. Enjoy a fat-free cookie or two, but remember that "no fat" doesn't mean zero calories.
14. You can substitute two egg whites for each whole egg in most recipes.
15. It's okay to alter cooking directions on the back of processed foods to control fat or salt. Use two-thirds of the seasoning packet in a rice mix, or make macaroni and cheese mix without the butter or margarine.

Source: *The American Institute for Cancer Research*



Illustrations by Barbara Hranilovich

Healthy Bites

If you often have heartburn at night, try elevating the head of your bed by at least six inches; wooden blocks or a couple of phone books will do the trick. This may prevent the most common cause of heartburn — gastroesophageal reflux, the back-up of stomach contents into the lower esophagus, where gastric acid produces a burning sensation.

A major report on smoking from the World Health Organization and the Imperial Cancer Research Fund paints an ugly picture:

- Number of people who die each year from smoking: 3 million.
- Number of annual smoking deaths by the year 2020, if current trends continue: 10 million.
- Number of people alive today who will eventually be killed by tobacco: half a billion.
- Percentage of the world's women living in the U.S.: 5 percent, but the percentage of the world's women dying from smoking who live in the U.S.: 50 percent.



Don't take leftover antibiotics for a cold or flu. Two out of three Americans think incorrectly — that antibiotics can kill viruses, according to one survey. Penicillin and most other antibiotics work only against bacterial infections, such as strep throat, not against viral infections such as colds and flus. Take antibiotics only when your doctor prescribes them. Take them for the full length of time as recommended — that way you should have none left over. Don't keep any leftovers for future use.

All kinds of remedies have been advocated for hiccups — here's the latest. Briefly apply ice cubes to the sides of the neck at the level of the Adam's apple. This works by interrupting the reflex nerve signals that cause the contractions of the diaphragm.



Drink the leftover milk from your breakfast cereal. A significant amount of the vitamins added to fortify most cereals winds up in the milk, so it's especially nutritious.

Q

My total cholesterol is high, but so is my level of HDL (good) cholesterol. How important is a low-fat diet for someone like me?

A recent study in the *Journal of the American Medical Association* reported that, at least for people with no history of heart disease, the ratio of total cholesterol to HDL or good cholesterol is the most accurate predictor of heart disease risk.

Your high overall cholesterol may denote a risk that is significant, or it might be quite low; discuss your numbers with your doctor.

Regardless of the risk suggested by these tests, a moderately low-fat diet is recommended for virtually everyone over age 2 to prevent unhealthy cholesterol levels. That means no more than 30 percent of daily calories from fat.

If following that guideline does not bring the ratio of your total cholesterol to HDL cholesterol to a healthy level, then a further reduction in saturated fat is recommended.

Besides reducing the risk of heart disease, a low-fat diet based largely on grain products, fruits and vegetables is one of the major steps you can take to reduce your cancer risk.

Office Calls



How safe is the new supplement called melatonin?

No incidents of severe danger have been attributed to melatonin, a hormone said to help with insomnia. Yet a spokesperson from the U.S. Food and Drug Administration notes that we do not yet know who might benefit from this product, what the dose should be or what the risks are.

Some researchers note that older people, whose natural production of the hormone may have dropped, are more likely to benefit from the supplement than younger people.

Don't be Wary of Dairy

Most people who think they're lactose intolerant — unable even to put cream in their coffee or milk on their cereal — can probably drink moderate amounts of milk without discomfort.

Of 30 supposedly lactose intolerant Minnesotans tested, 9 actually could digest milk perfectly well. And after drinking a full glass of milk with breakfast every day for week, none of the 30 volunteers reported having problems with gas, bloating, pain or diarrhea.

Source: *The New England Journal of Medicine*, July 6, 1995.

Exercise Maintains Immunity

There's now more evidence that getting regular exercise helps to retard the decline in immune function that typically accompanies aging. Whether they exercised or not, older volunteers had lower immunity than members of a youthful comparison group. But certain measures of immune response were found to be stronger in older runners than in their sedentary counterparts.

Source: *Medicine and Science in Sports and Exercise*, November 1995.

Memory: Use it or Lose it

Aging takes its toll on certain aspects of memory — such as the ability to put names to faces. But a study of college professors confirms earlier research suggesting that staying mentally active can help reserve more sophisticated feats of memory.

Professors aged 60 to 71 held their own against younger profs on memory tests involving mental planning, organization, and problem solving. Performance on such tests typically declines sharply with age. Source: *Psychological Science*, September 1995.

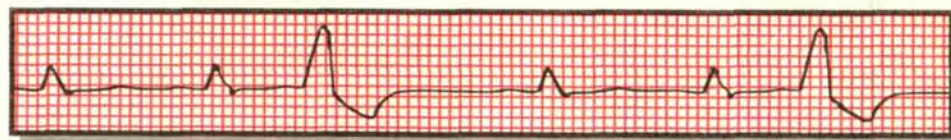
Because the supplements do not officially advertise any sleep-promoting or other health claims, they are not being regulated as drugs, and thus do not have to be proven effective.

Some researchers caution that we don't know the long-term consequences of these hormones, and they urge people to first try non-pharmaceutical approaches to sleeplessness, such as relaxation exercises and regular bedtime hours.

By Karen Collins, registered dietitian with the American Institute for Cancer Research in Washington, D.C., the only major non-profit group devoted to research in diet and cancer. Callers may contact the institute at 800-843-8114, 9 a.m. to 5 p.m. weekdays, with health-related food questions.



Medical Focus



GENETIC DISEASE

Unraveling origins of illness: progress and possibilities.

A T, C and G — only four letters. But to genetic scientists, these four letters tell one of the greatest stories ever told.

A, T, C and G represent four molecules — adenine, thymine, cytosine and guanine — contained in deoxyribonucleic acid (DNA). In a typical human gene, thousands of these four molecules are strung together in precise order. DNA sequence makes up the genetic code and determines which parts make the gene work — or not work.

Defects within a cell's DNA code are at the root of as many as 4,000 inherited disorders. Scientists also have identified genetic factors in common illnesses such as cancer, heart disease, diabetes and psychiatric illnesses.

Discovering a genetic defect allows scientists to study the gene's structure and characterize the mutations that can lead to disease. Discovery doesn't always translate into an effective therapy, let alone a cure. But greater understanding is already improving how some diseases are managed and the knowledge promises better therapies to come.

Your master blueprint



An estimated 100,000 genes are contained in chromosomes located within the nucleus of each of your cells. In addition to determining your unique physical characteristics, genes use DNA to instruct cells to make proteins.

Some proteins regulate chemical reactions in cells. Some provide structural support. Others, such as hormones, regulate a range of activities including growth, metabolism, reproduction and your response to environmental factors.

Because a protein's makeup is determined by its DNA code, any variation in the sequence of A, T, C and G means a cell may make the wrong amount of protein or an abnormal version. These mistakes can lead to disease.

Searching for genetic links



Inherited conditions such as cystic fibrosis and sickle cell anemia are caused by a single gene defect that's present from birth. Many other conditions such as cancer, heart disease and AIDS may develop from damage to one or more genes.

Since the early 1980s, scientists have identified genetic defects for about 50 hereditary disorders. More recently, scientists have discovered single or multiple genetic links to these conditions:

- **Amyotrophic lateral sclerosis (ALS)** — Popularly called Lou Gehrig's disease, ALS is characterized by degeneration of nerve cells in regions of your brain and spinal cord that control your muscles.

In about 10 percent of people with ALS, the fatal disease may stem from a flaw in a gene called SOD1. This gene normally acts as a housekeeper, blocking damage to cells by free radicals. How the defect may lead to nerve cell degeneration is unknown.

- **Asthma** — Researchers have discovered a gene that may cause chronic lung inflammation. However, asthma likely results from many factors or genetic defects.

- **Huntington's disease** — People who inherit this fatal brain disorder, characterized by progressive loss of muscle control and dementia, have a defective gene called IT15.

Huntington's disease is an uncommon disorder that affects 25,000 Americans. Yet a child whose parent has Huntington's disease has a 50 percent chance of inheriting the gene and developing the condition.

- **Melanoma** — Some people at risk for this deadly skin cancer lack a gene called P16 or possess a mutated version. Defects in other genes are also involved.

About 32,000 Americans develop melanoma each year; 10 percent of cases may be inherited.

- **Obesity** — The obese gene, nicknamed "ob" (oh-be), may be essential for maintaining healthy body weight. If the gene is defective, scientists suspect it fails to make a hormone-like protein that helps regulate appetite.

- **Alzheimer's disease** — Scientists have identified four defective genes in the inherited form of this neurologic disease. Hereditary Alzheimer's makes up 10 percent of cases and generally strikes before age 65.

Another gene APOE 4 is a risk factor in late-onset Alzheimer's, the more common form of the disease.

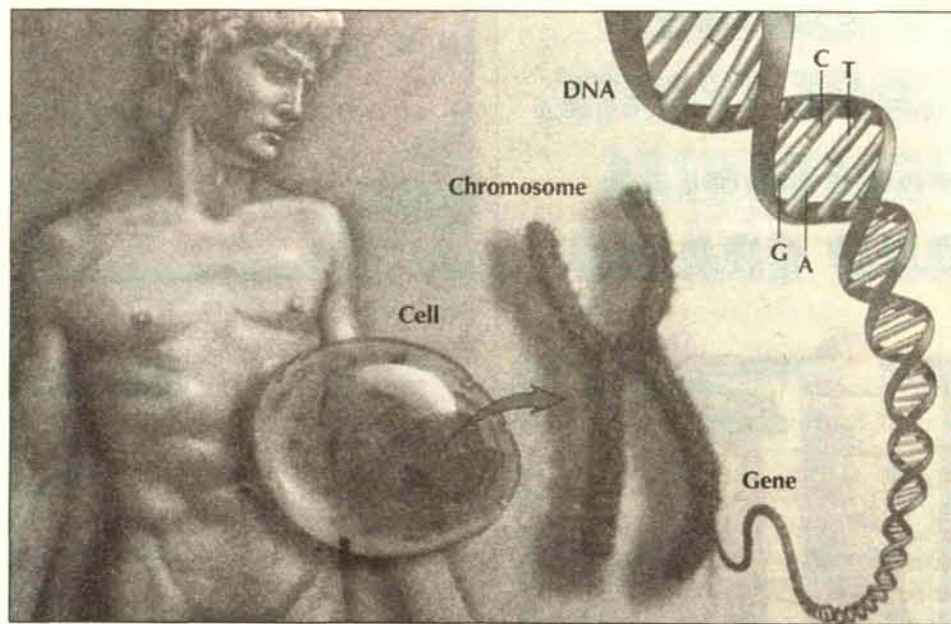
- **Breast cancer** — Two genes, BRCA1 and BRCA2, may cause some inherited forms of breast and ovarian cancers.

Hereditary breast cancer accounts for 5 percent of breast cancer cases. And only about 1 in 200 to 400 women inherit a defective BRCA1 gene.

In families with early-onset breast cancer, less than half the women who develop cancer carry the defective gene. In families with early-onset cases of both breast and ovarian cancers, BRCA1 may be responsible 80 percent of the time.

BRCA1 may also be involved in some nonhereditary breast and ovarian cancers.

- **Colon cancer** — Scientists have discovered several genes for a common form of hereditary colon and rectal cancer. The cancer generally affects younger adults and causes about 5 to 10 percent of all colon cancers.



About 60 trillion cells make up your body. Within each cell's nucleus are 23 pairs of chromosomes. Each chromosome contains thousands of genes that determine your heredity. Genes use the chemical DNA to instruct cells to make proteins. Instructions are spelled out by a specific code of four molecules — adenine (A), thymine (T), cytosine (C) and guanine (G). A single mistake in a code can disrupt a protein's function and lead to disease.

Discoveries lead to new paths



Once scientists link a gene to a particular disease, they must determine if other genes or defects may also be involved. For example, of the two genes involved in hereditary breast and ovarian cancers, scientists estimate at least 38 mutations in the BRCA1 gene.

The next step is to develop a test to detect the genetic flaw, often by analyzing a blood sample. Blood tests are available to detect many hereditary disorders such as cystic fibrosis, Huntington's disease and hemophilia.

The genetic test for Huntington's disease took only a few months to develop. Other involving multiple genetic links can take much longer. Genetic testing for hereditary breast and colon cancers may be available within two years.

Usually, the benefits of genetic testing are limited to identifying risk, not diagnosing the disease. Counseling regarding family planning and lifestyle decisions can be helpful in these situations. Yet the value of testing remains limited until researchers can develop treatments for high-risk people.

In addition, ethical questions complicate scientific issues. For example, how do you feel about being tested for a disease that can't be treated? Do you want to know you carry a gene for a disease that may develop years later? How will a medical institution protect your privacy? Should you know if your unborn child will develop an incurable disease?

Repairing the defect



One promising treatment for genetic diseases is gene therapy. In this experimental approach, healthy genes are injected into our blood or tissues.

The genes are contained within molecules targeted to seek out defective cells. Commonly, the carriers are virus particles that have been altered to prevent them from causing illness.

When a carrier reaches its target, it unloads the genes. Ultimately, the goal is for the new genes to activate or "express" themselves to correct the

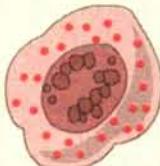
mutation or to make the defective cell susceptible to drug treatment.

Although only five years old, gene therapy is being tested in more than 100 clinical trials.

Last October, researchers reported what may be the first successful gene therapy. Healthy genes were injected into two young children with severe combined immunodeficiency disease (SCID), a rare hereditary disorder that shuts down immune function. Early reports show the targeted cells have incorporated the new genes.

But other experiments aren't as promising. For cystic fibrosis and muscular dystrophy, scientists haven't been able to correct genetic mutations using gene therapy. For these and other genetic diseases, standard medical and surgical treatment remains most useful.

Long road ahead

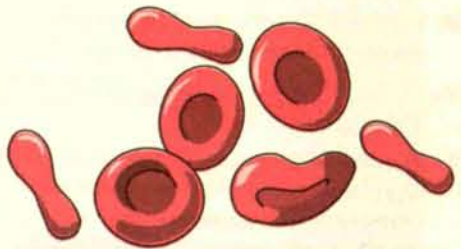


By 2005, scientists worldwide hope to identify all 100,000 or more human genes through the Human Genome Project. Pinpointing specific genes will allow scientists to decode the estimated 3 billion bits of genetic instruction they contain. This is the first step in understanding the molecular origins of a genetic disease — and eventually curing it.

But the road from discovery to therapy is a long, difficult and costly trip. During the past decade, scientists have collected data on about 6,300 human genes.

As gene analysis continues, treating genetic diseases by correcting the error or replacing the abnormal gene may become a reality.

Reprinted from January 1996 Mayo Clinic Health Letter with permission of Mayo Foundation for Medical Education and Research, Rochester, Minnesota 55905. For subscription information, call 800-333-9037.



Riding out the down side of the cattle cycle

Last fall's feeder calf sales brought a rude 15- to 20-cent drop in prices. The price drop wasn't a surprise, but when producers looked at their checks, the reality and disappointment hit home, says Ben Bartlett, district Extension agent, dairy and livestock, MSU Upper Peninsula region, Chatham.

"It's tough when your payday is 20 to 25 percent less than you expected," Bartlett said. "After the bills to pay are added up and then subtracted from the calf check, many producers found few dollars leftover."

After the first wave of frustration, Bartlett advises producers to sit down and start making plans. "Riding the downside of the cattle cycle is never an easy ride, so livestock producers need to look at what's happened and what they can do about it."

No Quick Fix

The current drop in feeder calf values is largely due to the increasing cow herd and resulting larger calf crop. Bartlett says that while the U.S. population is growing at 1 percent, the cow herd grew 2.2 percent in 1994 and 2.4 percent in 1995. Although the high price of corn hasn't helped matters, Bartlett contends that the basic problem is one of over-supply in the beef industry.

"It's true the imports from Canada and Mexico are up, but so are our exports to Asia," Bartlett explained. "The bottom line is we are calving them faster than we're eating them. This is important because, unfortunately, this means the beef supply will grow even more as we try to reduce the size of the cow herd. We are going to have low prices for the next two or three years and there's no quick fix."

How to Survive and Thrive?

Beef supplies were up 4 percent in 1994, and predictions are for increases of 2 percent in 1995, 4 percent in 1996, with additional increases expected in 1997, before things begin turning around in 1998, Bartlett predicts. He says that while individual producers cannot change the size of the national cow herd or the national average calf price and shouldn't bother trying, each producer needs to put together a "survive and thrive" plan for their operation.

"Cost control will have to be the primary focus, but that doesn't always mean spending less money — it means producing each calf more cheaply," Bartlett said. "Obviously, low-cost producers can ride out low prices longer than the high-cost operations."

The first step to reducing the cost to produce a calf is to divide these costs into fixed and variable costs. Fixed expenses are those that you have no matter how many cows you run. Examples include land, taxes, round baler payments, and a labor charge for you or the hired person.

Variable costs are directly related to the number of cows. Examples could be feed, medicine and any hired labor. Labor is included under both categories to show that items need to be considered as to how they relate to change in cow numbers and not some artificial listing.

Bartlett suggests that producers with high fixed cost per calf need to expand numbers or sales. "If, however, your variable costs are high, then increase production per unit and/or decrease the variable costs," he advised.

Although it's easier said than done, Bartlett says there are several ways to increase numbers and/

or sales if you have extra land or equipment capacity and/or extra labor. "Increase your cow herd by retaining extra heifer calves, purchase cows and/or looking into investor or share lease cows," he suggested.

"Many Midwest cow-calf operations are overinvested on a per-cow basis so more cows lower that per-cow fixed cost. Right now is an ideal time to save back those good heifer calves to grow your herd size."

Another way to increase sales is to keep weaned calves and sell them as yearlings, suggests Bartlett. A 500-pound calf that's kept and sold as a 750-pound yearling over 140 days and fed 8 pounds of an 8-cent cost of feed, increases the cash flow per calf by \$50. "That won't buy a new pickup, but it may make payments on the old one," he said.

Discussions of increased sales often includes consideration of retained ownership and feed-out at a custom feedlot. Retained ownership can be considered — if your cattle genetics are above average, if you have or can partner on a truckload (48,000-50,000 pounds), if you can manage the cash flow, and if you can handle the risk. "When you wake up at 1 a.m. and wonder how your cattle down at the feedlot are doing, can you go back to sleep?" Bartlett asked.

If you have high variable costs, you need to increase production and/or decrease the variable costs. One of the easiest ways to increase production is to cull the bottom end of your cow herd, says Bartlett. "Get rid of the freeloader and pets," he said. "Use the extra feed, facilities and labor to do a better job with the remaining herd."

Dealing with Feed Costs

When the variable costs to produce a calf are analyzed, feed is the major cost. The cost for maintaining the cow is a millstone around the neck of

profit, says Bartlett. "The two main categories of feed are forage costs (hay and pasture); and other miscellaneous, non-forage costs," he said.

"Unfortunately, we seem to spend most of our time and energy on the miscellaneous costs like mineral, whereas the real killer is the forage costs," Bartlett continued. Pasture and hay are the major cost items on any cow-calf operation, and the more hay, the higher the feed costs."

According to Bartlett, if the cost to harvest the hay and deliver it to the cow adds 50 cents a day per cow over and above the land and growing, the cost would be equivalent to \$750 on a 50-cow herd in 30 days.

"This may not sound like big dollars, but this \$750 is equal to 5 cents per pound on the calves sold out of this cow herd," Bartlett cautioned. "There were a lot of people who would have gotten real excited over another 5 cents at last fall's auction. If producers would reduce their hay needs by 60 days, that's equal to another 10 cents per pound."

Parting Thoughts

Bartlett offers the following food for thought:

- The next two to three years will have low cattle prices due to the build-up in the size of the cow herd.
- Cow-calf producers will have to do things differently or plan on putting money into the cow business to keep it going.
- 60 days more pasture and less hay feeding is one of the lowest risk, highest benefit things you can do to stay competitive.
- There's a tremendous future in 1999 for those cow-calf producers who can ride out the downside of the cattle cycle. ■

Should you consider grazing dairy cows?

by Ben Bartlett, Dairy Agent, Michigan State University

If you lived in a black box and just read farm publications, it would be very interesting to have you describe the dairy industry. I bet your view would be that everybody, except a few producers who complain about low prices, is building a new 300 to 1,000-cow freestall barn with a new parlor to milk 3 times per day and run 22 hours a day.

The attitude seems to be get bigger, buy feed, and focus on personnel management. There's a place for these larger freestall barn and labor intensive operations. We need those systems for some areas and personality types. I'm also for running more cows per person if we are to compete with other countries and still enjoy our U.S. standard of living. These intensive production systems are great for the producer in mid-career, but what about the producer approaching retirement or the young farmer wanting to get started?

Scenario Number 1 — Approaching Retirement

We have a lot of 50-year-old dairy farmers who know the kids aren't coming back, they still have some debt on the farm, and their equipment is over half worn out. They don't want to get bigger and accumulate more debt, but they know that in 15 years there won't be enough farm to sell and retire on.

It's not hard to understand the level of frustra-

tion and their desire for higher milk prices as a solution to this situation. Higher prices aren't going to happen, so some of them will get off-farm jobs and spread the word that there's no future in dairying.

Instead of pushing the "get bigger or get out" mentality, why not consider going into a semi-seasonal system? Let's take the 50-cow stall barn and put a flat barn in one end so they could milk 75 to 100 cows in 2 hours during the summer and early fall. They would have a 60-day breeding season for these spring calvers and then a 60-day fall calving (winter breeding) window for the cows who missed the spring calving window.

There should be enough cash flow to hire some extra summer help until fall arrives and things slow down. All calves born during the fall cycle would be sold so that by Jan. 1, there would only be four groups on the farm; spring calvers, most of which would be dry and outside; the fall calvers, the spring calves, and the past year's yearlings.

Milking 30 to 40 cows in the winter would keep your year-round cash flow, while also providing an opportunity for a vacation, because there are no calves to feed or cows to breed, and no calving to deal with.

The spring-calving cows would be grazed on the extra acres used to grow grain and, if necessary, on purchased hay. The "home" farm would be used for pasture first, with any extra forage made into

hay/haylage. While there could be numerous variations to this concept, the principle here is to increase cash flow without major investments in new facilities or hired help. This system only has to last 15 years until retirement to allow producers an opportunity to retire "gracefully."

Scenario Number 2 — Just Getting Started

Another forgotten segment of our industry pertains to those people trying to get in. New entries into the industry simply aren't keeping pace with the number of those exiting the industry. I'm not sure if the New Zealand share-milking concept is completely transferrable to this country, but somehow we need to establish a system of allowing young farmers to work into cattle, equipment and farm ownership over an extended period.

It's really naive to think a person can afford to go from nothing to a debt load on the farm, cows, equipment, and still have money left to make payments and live on. We have a few people who are financing the cows, renting the farm, and buying the needed grain and winter forage. This has the potential for working young people into dairying and is an ideal way for the 55 to 65 year-old farmer to work his way out of the farm.

This keeps both the interest and tax load manageable and allows transfer of the older farmer's experience to the next generation. Grazing can play

a critical role because it allows for at least six months of high quality forage harvesting at the lowest possible cost. The trade-off is the "work" to properly manage these pasture systems. Grazing allows more cows to be run while holding the amount of purchased feeds to a minimum.

It's really surprising that grazing has been perceived as a threat to many of the dairy supply industries. It's not uncommon to hear feed dealers say grazing won't work or that milk production will fall to nothing. They never express the fear of lost feed and protein sales, but it's obvious whose short-term pocketbook they're concerned about.

The real interesting situation is that major feed companies are actively promoting the large dairy concept to maintain sales. What are all of the local feed suppliers and nutritionists going to do when the mega farms buy direct from the company? The 1,000-cow dairies won't need the services of ten separate 100-cow dairy operations.

Getting back to my original question — Should we graze dairy cows? If "we" means all dairy farmers, the answer obviously is NO. There are people and farms where "haul the feed to the cows," is the best option for all concerned. If "we" is the bigger view of the dairy industry from the perspective of the want-to-be dairy farmers, retiring farmers, the local vet, and feed dealer, we cannot economically afford not to consider and promote grazing systems for at least some of our cows. ■

10 steps to cutting costs

Continued from page 10

key time to supplement P is when cows are on dry grass or crop residues, or when they are lactating heavily. Non-lactating cows being fed hay probably only need salt or a mineral with a low level of P. During periods of high mineral requirement, a 12 percent Phosphorus mineral should be provided, but during periods of minimal requirement, a mineral lower in P should be provided.

- Control intake — As stated above, cows don't have the ability to regulate their intake. The best approach to controlling intake is to use salt. During periods where high intake is desired, a 12 percent salt mix could be used; while during periods where the need for P is low, a mixture containing 50 percent salt could be used to restrict intake.

Total mineral supplementation costs probably shouldn't be more than \$7 per cow per year, and with good management, mineral expenditures per cow could be only \$3.

Step 7 — Match the calving season to the resources

Many producers have moved their calving season into late winter to increase the age of the

calves at weaning with the goal of increasing weaning weight. While calving earlier seems logical, this practice ignores the tremendous cost of providing adequate nutrition from calving to the start of the grazing season.

It would seem preferable to match the production system to when high quality forage, i.e., green grass, is available. In other words, calving in February necessitates that cows are rebred each year while consuming harvested forage or shortly after going to grass. A more efficient approach is to let the early, high-quality grass "flush" the cows and make rebreeding less expensive.

The difference between the energy available and required is very large January through April. Obviously, this deficiency must be made up through additional feedstuffs at some cost. Consequently, producers should consider later calving in spring calving herds to minimize winter feed costs and to let the grass "flush" the cows.

The optimum time for calving depends on several variables. For instance, if the calves must be sold at weaning, calving later may not be practical,

since it will probably reduce weaning weights. If the calves are retained, calving later may necessitate a slightly longer growing program to end up with the same number of pounds to market. Furthermore, there may be major tax considerations if calves are retained into another year. At any rate, calving later in the spring appears to have the potential to make many cattle operations much more efficient by reducing winter feed bills and making maximum use of the high-quality grass typically available in May and June.

Step 8 — Wean earlier in the fall and put the calves in a growing program

One approach to reducing feed costs is to wean the calves in late August or early September. This system has a couple of advantages. First, early-weaned cows typically will go into the winter in better body condition, which reduces the feed required prior to calving. Secondly, calves with high growth potential will make better gains on a good growing ration than they will make on the typically poor quality pasture available in September and October.

Step 9 — Minimize the use of "convenience" feedstuffs and products

There are many products available to cattle producers that are good products; however, their use is based on convenience rather than cost. For example, blocks and lick tanks are very convenient ways of providing protein and mineral supplements, but they are usually not the cheapest way of supplying these nutrients. Correspondingly, there is often considerable difference in the cost of deworming products based on the ease of application. Given the current value of calves and the forecast for low prices during the next few years, it is a good time to decide if the convenience is worth the extra cost.

Step 10 — Have suppliers bid supplements and supplies

Many larger producers have found that formulating mineral and protein supplement specifications and having them bid by several suppliers has resulted in a significant decrease in the cost per unit. Obviously, this requires a well-designed set of specifications to ensure nutritional adequacy. Smaller producers can also use bidding by grouping together with other producers needing the same supplement or product. ■

Rethinking your dairy herd health program?

Twenty years of herd health hasn't helped to reduce calving intervals, suggesting that dairy producers and their veterinarians need to rethink their breeding and herd health strategies, says Dr. John Ferry of Adams, N.Y. Ferry, who serves as consultant in a practice in northern New York, was in Michigan recently as a guest speaker at a series of dairy producer meetings sponsored by Monsanto.

Ferry says that the calving interval, used as a standard measure of a successful reproduction program, was at 13.1 months in 1972. Today, the average calving interval is actually at 13.3 months, suggesting that producers have needlessly spent a great deal of money on herd health.

"The northeast DHIA data that we use does not justify the financial investment dairy producers have made in reproduction programs over this time period, unless we argue that without our herd health programs, the calving interval would have actually increased more dramatically," Ferry said. "I would be more concerned with controlling the distribution of the calving interval to reduce the percentage of cows with a calving interval long enough to justify culling."

Although the ideal calving interval will vary from farm to farm, based on production levels, milk price and feed price, Ferry contends that losses associated with calving intervals under 14.5 months are minimal in high producing herds. He monitors

the percent of cows conceived past 155 days in milk as a measure of success in controlling the distribution of the calving interval. Herds with less than 20 percent conception past 155 days are ranked excellent, while herds less than 25 percent are acceptable. "In problem herds, over 30 percent, and in some cases as high as 40 percent of conceptions take place after 155 days in milk," he said.

Another measure used by Ferry to determine the success of a herd breeding program is the percent of cows past 200 days in milk that are confirmed pregnant. In herds with an excellent breeding program, 90 percent of the cows are pregnant, while herds with less than 80 percent confirmed pregnant past 200 days are considered problems, says Ferry.

"Many people would ask, 'Why wait until 200 days? Wouldn't you like to see them pregnant at 100 or 150 days?' That's true, but in the management style of the larger dairies I work with — basically over 200 head — the management routine is to breed the cows A.I. in the high group before moving them in mid-lactation at 150 days to the low group where there are typically bulls running with the cows," Ferry explained.

Improving Conception Rates

Body score change is a big factor in the success of the breeding program, says Ferry, and can often point to other management problems, specifically feeding and nutrition. While overall body score is important, he says producers really need to focus

on the score loss and that ideally a cow should lose less than one point of body score for improved conception rates.

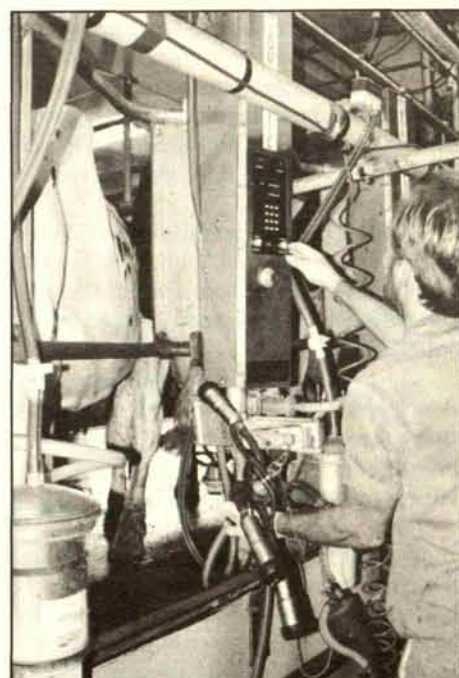
"We want the cow to calve typically at 3.5, and we don't want her to drop below 2.5 at her peak weight loss in early lactation," Ferry advised. "So, part of our monthly visit involves monitoring what's going on with body score and whether we're properly controlling weight loss or whether we're putting excessive weight on the cows."

Based on his experience, Ferry said cows that lost less than one body score had a 53 percent conception rate, while those that lost more weight than one body score dropped to 17 percent conception rate on first service.

Ferry also relies heavily on prostaglandin therapy as opposed to intrauterine antibiotics, saying the results and the costs make the antibiotic therapy hard to justify in most cases. "Even those who believe that intrauterine antibiotics are of benefit must realize that such antibiotic use can only be justified if it is necessary and if there is no equal or better alternative," he said.

Ferry recommends using a prostaglandin therapy starting 14 days after calving, followed by another dose after the desired waiting interval for breeding. Most of Ferry's clients typically use a 60-day waiting period, although many went to 45 days following last summer's breeding problems.

"That prostaglandin program will vary for



Dr. John Ferry contends that past reproduction performance standards no longer apply to today's higher-producing herds. Calving intervals, days in milk, percent of cows confirmed bred past 200 days in milk, and body score loss all need to be reconsidered.

JUST PLANT YOUR CORN



THEN APPLY THE PROWL



AND GET ON WITH



OTHER THINGS.

YOU DON'T HAVE ANY TIME TO WASTE. THAT'S WHY YOU USE PROWL® HERBICIDE AS PART OF YOUR CORN WEED PROGRAM. GET YOUR CORN PLANTED EARLY. THEN BEFORE THE CORN COMES UP, COME BACK WITH PROWL IN A TANK-MIX WITH BICER,¹ BLADIX² OR ATRAZINE. YOU'VE GOT YOUR CORN OFF TO A GOOD EARLY START WITH AFFORDABLE RESIDUAL CONTROL OF TRIAZINE-RESISTANT LAMBSQUARTERS, VELVETLEAF AND FOXTAILS. NOW YOU HAVE MORE TIME FOR OTHER THINGS. THAT'S IT. WE'RE HERE TO CONTROL WEEDS, NOT WASTE YOUR TIME.

FOR MORE INFORMATION, SEE YOUR CYANAMID AGRICENTER™ DEALER OR CALL 1-800-942-0500.

PROWL[®]
C O R N

Always follow label directions. ¹/TM Trademarks, American Cyanamid Company ©1996.
² Trademark, CIBA Corporation. ³ Trademark, DuPont Company.



every dairy, based on how easy it might be to give the shots, but generally the program centers a shot every 14 days until we see the cow in standing heat and get her bred," Ferry said. "Using percent of conceptions past 155 days in milk as a measure, the prostaglandin protocol has been extremely successful when compared to infusions."

Ferry acknowledges that managing the cow from calving to day 14 can be a tricky proposition and, in extreme cases, may require the intrauterine antibiotic treatment. One other option, says Ferry, could be the use of an intravenous hypertonic saline solution.

Using a prostaglandin program also helps in dealing with poor heat detection, which continues to be an unresolved problem on many operations, says Ferry. Compounding the problem even more, missed heats are often misdiagnosed and attributed to a cow being cystic, resulting in additional vet costs and breeding delays.

Cycling several cows on the same day increases heat activity, with some studies suggesting that standing heat frequency will increase tenfold. "Studies have shown that trained observers detected 56 percent of heats, while continual observations found 93.5 percent of heats. By grouping a majority of heats into a space of just a few days following scheduled prostaglandin injections, producers can increase the intensity of observation for standing heat during this period," Ferry concluded. ■

Bleak outlook ahead for farm income

Net farm income in the U.S. is expected to rise to \$41.7 billion in 1996, from \$38.7 billion in 1995, says United States Department of Agriculture (USDA), which is running its annual outlook conference this week in Washington.

That's the good news. The bad news is that 1997-2000 income is expected to be lower, as expenses are forecast to keep rising. USDA economist Mitchell Morehart forecasts 1997-2000 income at somewhere between \$38.6 to \$40.3 billion yearly. Adjusted for inflation, that's a 25 percent drop by the year 2000, he told the outlook conference.

The forecast also calls for larger drops, in percentage terms, in the income of small farms, according to a Reuters report from the conference.

Morehart's projection assumes continuation of the 1990 farm bill, but that looks unlikely.

For 1996, farm receipts from crops are forecast at \$98 to \$103 billion, up from a record \$97 billion in 1995.

Livestock cash receipts are pegged at \$85 to \$89 billion for 1996, compared with the 1990-94 average of \$88 billion.

With high grain and cotton prices reducing deficiency payments, direct government subsidies to farmers are forecast to fall to their lowest levels since the early 1980s.

The biggest increases in net cash income are forecast for farms that specialize in poultry, fruit and vegetables, says Reuters. ■

Tips for managing the bST herd

After the commercialization of bST just over two years ago, most experiences have been positive, although the amount of production increases has varied from farm to farm based on management styles. General observations suggest that better-managed cows will show a better response to bST.

Herd management may be measured by average production, or by profitability. Herd management measured by production encompasses many factors. Some of those factors associated with poor production include weakness in the management of:

- Feed Bunks
- Cow Health
- Replacement Rearing
- Reproduction

The degree to which a low-producing herd can be expected to respond to bST depends on which of these factors contributed most to their low production.

Feed Bunk Management

Poor feedbunk management can be due to simply not offering enough feed, offering a poorly balanced ration, using poor quality feed, or limited access to feed. Limited access could be due to insufficient bunk space or lameness that reduces the

cow's ability to travel to the bunk. If production prior to bST supplementation is limited by feed availability, supplemented cows will still be limited by that same factor.

These herds will respond more dramatically to increased feed intake than to bST supplementation. Only after the bunk management has been improved will bST prove profitable for these herds.

Studies evaluating the use of bST have included Total Mixed Rations (TMR) magnet or computer feeders, component feeding and pasture systems. There appears to be no apparent difference in milk response to bST due to the feeding system as long as good quality forage is available.

However, feeding grain separate from forages should be reassessed when large amounts of grain are fed in two meals per day. Since the increase in dry matter intake lags behind the milk response, producer should be cautious on immediately increasing the amount of grain fed unless it's fed over more meals per day (up to six to eight pounds per feeding). Since increasing the dry matter intake with grain may be initially offset by less forage consumption, cows that are already borderline on fiber may be affected by improper rumen fermentation.

Other factors affecting dry matter intake include, moisture content of the diet, mold-free feed and bunks, plenty of fresh clean water, managing heat stress, and keeping time cows are away from feed to a minimum. Milk yield response to bST

appears to be greatest when feed is available to cows for at least 19 hours on a daily basis.

Cow Health

A primary consideration relative to feed bunk management, cow health and bST supplementation has been body condition. A cow's ability to respond is not necessarily due to her present body condition, but her present energy balance. A cow that calves thin, or lost excess weight in early lactation may still be thin (body condition of 2.5) nine weeks into her lactation. Some of these thin cows will still be struggling with health problems and will still be in negative energy balance. Others will be in excellent health and in a positive energy balance.

Cows with body condition scores of 2.5 to 3.0 that are in a positive energy balance should not be overlooked for bST. They will respond equally well to heavier cows with a positive energy balance. The challenge is to evaluate the health status of thin cows to determine which ones can be expected to respond profitably.

The primary objective is to have cows in the proper body condition by dryoff. Poor body condition at dryoff and calving has been associated with suppressed subsequent lactation performance. Producers should attempt to dry cows off at a condition score of 3.0 to 3.5, and calve at a score of 3.25 to 3.75.

Replacement Rearing

Reviewing records from several bST supplemented herds, the greatest variation in response has

been in first-calf heifers. The variable response may be due to heifer growth prior to first calving. Poorly grown heifers have less capacity for dry matter intake, limiting their ability to respond to bST supplementation and may be diverting sufficient nutrients to growth which further limits milk production.

Conversely, well-grown heifers with greater dry matter intakes and lower growth requirements can be expected to respond well to bST. This response may be enhanced by housing first-lactation animals separately, allowing for maximum intakes.

Reproduction

Some herds offer good feedbunk management, but suffer from poor average production due to poor reproductive performance. Herds with excessive lactations have lower rolling herd averages (RHA) due to a greater percentage of cows in late lactation and excessive dry periods.

If feed bunk management is good, these low RHA herds would be expected to respond as well to bST supplementation as the higher RHA herds. bST's impact of improving late lactation production and profitability may also reduce the losses due to poor reproductive management.

Sources: Feeding and Managing the bST-Supplemented Dairy Cow, Gary F. Hartnell, PhD, PAS, Animal Sciences Division, Monsanto Company; Managing the Dairy Herd of Tomorrow, Today, Dr. John Ferry, Adams, New York.

General Recommendations

- Formulate and feed diets for body condition and performance of the cow following the National Research Council guidelines. Dietary recommendations should result in cows attaining proper body condition at dryoff and at calving.
- No special requirements or feed additives are needed.
- Optimize dry matter intake.
- Feed high-quality forages.
- Optimize cow comfort.
- Feed total mixed ration ad libitum: Keep cows in groups based on production and condition.
- Component feeding where grain is fed based on milk yield and forage is fed ad libitum: Hold grain constant for three weeks and then adjust slowly according to milk yield and body condition. This will allow enough time for the dry matter intake to increase so that a proper forage to concentrate ratio can be maintained. As a target, limit grain to a maximum of six to eight pounds per feeding. Feed according to milk production, taking body condition into account for that stage of lactation.
- Component feeding where grain is fed based on the dairyman's perception of the cow's need and forage is fed ad libitum: Feed grain according to body condition. As long as forage is of good quality, dry matter intake will increase to support milk yield increase. Recommend going on DHIA.
- Pasture: Provide good quality pasture ad libitum and shade during periods of high temperatures. Fresh clean water should be available nearby. Supplement feed according to milk production level and body condition.

Source: Feeding and Managing the bST-Supplemented Dairy Cow, Gary F. Hartnell, PhD, PAS, Animal Sciences Division, Monsanto Company.

Glickman announces advisory committee

Agriculture Secretary Dan Glickman has formed an advisory committee to examine the packer concentration situation. The panel includes eight producer-representatives, seven representatives from agri-business entities, three state government representatives and three economists.

Glickman said the panel will hold three or four meetings, before finalizing its recommendations by June 7. He is relying on the group to review the evidence of concentration in agriculture and make recommendations for further actions.

The secretary also said he will urge Attorney General Janet Reno to keep the U.S. meat industry under review for possible anti-competitive practices. He said he had not asked the Justice Department to take any action, but noted that the report on packer concentration showed there was no evidence of wrongdoing on the part of the four major U.S. meat packers.

JUST A FEW
MORE
SEASONS
AND HE'LL
BE OFF TO
COLLEGE...

BETTER CALL YOUR FARM
BUREAU INSURANCE AGENT
RIGHT AFTER THE GAME.

By starting now, you can give your family the kind of future you want them to have... a future that includes college, a paid-off mortgage, and enough money to keep the family together.

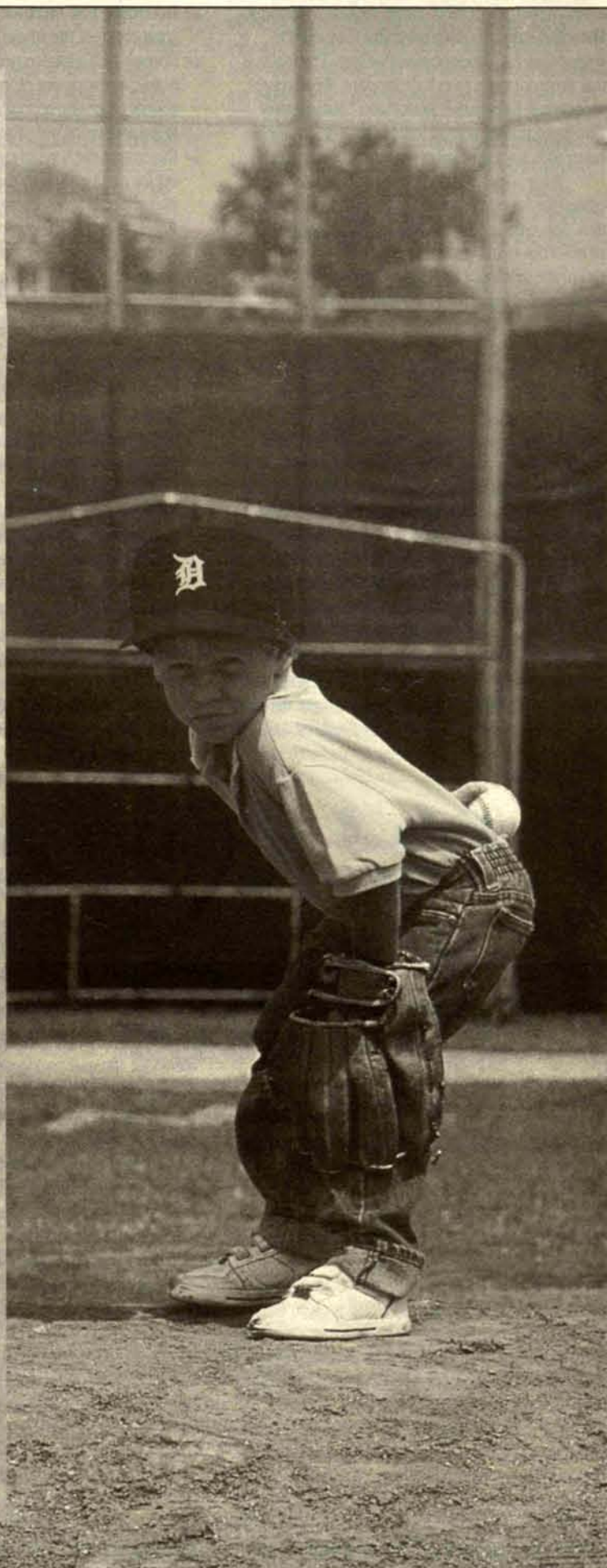
Even if something happens to you, a plan from Farm Bureau Life Insurance of Michigan can make sure your dreams live on.

We are the only Michigan-based company named one of the top 50 outstanding life insurers in America, based on safety, security, and financial performance. Call your Farm Bureau Insurance agent today.

Making your future more predictable

FARM BUREAU
INSURANCE

FARM BUREAU MUTUAL • FARM BUREAU LIFE • FARM BUREAU GENERAL • FB ANNUITY



Networking for pork producers

Pork producers are increasingly aware that their place in the "pork food chain" is secure only if they can adapt to rapid, sometimes chaotic, changes as the industry shifts from being commodity-based to one that is product-oriented. Pork products today are of greater consistency, higher quality, and produced in larger volume than ever before.

Basic economics dictate that modern production units, taking advantage of economies of scale and proven production technologies that lower production costs, have a competitive advantage in a profit driven system. Pork producers that meet this challenge have a tremendous opportunity to position themselves in an industry with, as yet, undefined limits for growth potential.

Networking with other producers is one way to achieve the competitive advantages of modern production systems. Successful networking arrangements often have a unique character and offer solutions to complex problems that may not exist for independent producers. Possible networking arrangements are limitless.

Producers do not have to build "cookie-cutter" units to capture all the production technologies that will enhance competitiveness. Every arrangement must take into account the resources, desires and goals of each individual member.

Loss of independence is a major concern for most producers who consider networking for the first time. The very idea that an independent producer may have to depend on someone else is alarming. Many find it equally distressing that they may be responsible for someone else's welfare. The reality is that no producer is truly independent. We all represent certain links in the "pork chain." Some loss of autonomy may be a small price to pay for the opportunity to enjoy a mutually successful relationship.

Many pork producers have limited access to capital for investment and "retooling" their operation. Some do not utilize proven technologies like all in/all out management of pigs, split sex feeding and phase feeding. Others seek to improve genetics but are not using artificial insemination or cannot afford to build gilt multipliers.

Segregated early weaning or separate site production may be impossible for certain independent producers because of the physical limitations of presently owned facilities. Networking can be one way for producers to incorporate these technologies. In addition, it can often reduce the cost of superior technical and management expertise by allowing specialization of facilities and labor, and uniformity of management.

Unfortunately, the successful network does not guarantee success of the individual. Individuals who fail to uphold their part of the bargain within the network, however, always adversely affect the other members. It makes sense, then, to carefully choose members willing and able to commit all it takes to be a successful partner. Requiring a significant investment of capital or other resources up front appears to be one of the best insurance policies in this regard.

Michigan Pork Alliance members have developed this Checklist and Operation Audit to help prepare producers entering a networking arrangement. Michigan Pork Alliance members will play a major role in securing legislative changes, access to capital and markets, and obtaining access to the information necessary for Michigan's swine industry to grow and develop to meet increasing demand at home and abroad.

Pork producers have never had greater opportunity than exists today. Integration of this growing industry will likely continue as long as it is profitable. Integration probably will succeed where networking fails. Those producers willing to adapt may find it possible to secure a rewarding position as an essential link in the pork chain.

Pork Producers' Networking Checklist and Operation Audit

There are an infinite number of ways for producers to network successfully with others. All networking relationships must consider certain issues when the time comes to start a project or plan an expansion.

The following categories and items in each category are meant to serve as a checklist to aid in planning such projects. The location; people involved; and nature of the business, including size, structure, and type of production unit, will influence the applicability and timing for each item in the checklist.

Business Structure

- ✓ Determine how livestock production fits as a component of the whole farm enterprise.
- ✓ Consult with a bank representative, local economic development representative, and/or a county extension representative to secure detailed assistance with drafting a business plan.
- ✓ Determine the level of capital required and interest for participation in the project (e.g. bank, partners, investors, equity).
- ✓ Enroll in one of the computer recordkeeping/accounting programs such as MSU's Telfarm, Agriculture Credit Service, etc.
- ✓ Determine if there are any permits required from the Department of Environmental Quality necessary to operate the enterprise at the size you anticipate.
- ✓ Conduct exploratory meetings with neighbors, other producers and potential partners.
- ✓ Solicit interest from genetics suppliers, feed companies, equipment dealers, other producers and interested parties.
- ✓ Establish a common goal and purpose for the network. Establish unit size and structure needed to produce a product with desired volume, consistency and quality.
- ✓ Draw up a legal business contract that identifies the enterprise as sole proprietorship, partnership, cooperative, corporation or limited liability company.
- ✓ Do an economic feasibility study.
- ✓ Draft or modify bylaws, and develop a prospectus if applicable.
- ✓ Require substantial commitment of capital or

equity from prospective participants prior to moving ahead with the planning process to ensure participation and to narrow down the list to only serious participants.

- ✓ Develop an exit strategy for producers who wish to sell their interest, transfer or otherwise leave the arrangement.

Public Relations

- ✓ In order to be effective with public relations, you need to follow good management practices, keep your facility neat and clean, and *know your neighbors*. Be a good neighbor and get involved in the community.
- ✓ Start a public relations campaign to address issues before and as they arise. Focus on contributions the production unit will make to agriculture and the local economy.
- ✓ Have an open house for neighbors prior to a general open house for associates, suppliers and other interested parties.
- ✓ Take your neighbors' complaints/concerns seriously. Talk with your neighbors in person when possible, and describe management activities that will address their concerns.

Building/Contracting

- ✓ Determine a building design and site layout. Take into account geographical features, soil types and setback requirements.
- ✓ Make sure the site plan is consistent with local zoning laws.
- ✓ Determine if state land use permits are required (Department of Environmental Quality, Land and Water Management).
- ✓ Develop a complete set of plans including: security landscape, floor plan, equipment specifications, foundation plan, building materials, ventilation plan, fire protection, electrical and lights, animal handling facilities, structural details, overflow contingency plan, water system, waste management system, feed handling and flooring.
- ✓ Obtain bids from contractors; check references.
- ✓ Secure a building permit if required from the township or county planning and zoning board.
- ✓ Inform tax assessor that this operation will be production agriculture for proper assessment purposes.
- ✓ Start construction — establish a completion date in the contract.
- ✓ Before final payment and accepting the building, be sure that the building conforms with the plan, and all equipment cited in the contract is installed and operating correctly.

Capital Resources

- ✓ Do a sensitivity analysis to show break-even costs and returns for the operation.
- ✓ Determine start up costs and establish an amount of capital reserves necessary to take project through to completion.
- ✓ Draft preliminary cash flows for one year, five year, and ten year projections on a spreadsheet which can be modified as planning progresses.
- ✓ Identify sources of capital and solicit information from various lenders.



- ✓ Present a proposal to various lenders selected from list of possible sources for capital.

Production Planning

- ✓ Consider a professional program designed by a company with some vested interest.
- ✓ Plan pig flows according to schematic fitting facilities design.
- ✓ Determine a source of genetics.
- ✓ Design a herd health management plan.
- ✓ Determine a nutritional program. Develop plan to buy/provide feed at competitive (low) prices.
- ✓ Determine proximity to feed sources, e.g., grain elevator, commercial feed mills.
- ✓ Design biosecurity guidelines and procedures.
- ✓ Establish a marketing plan.
- ✓ Fit the enterprise into the overall farm business. Is it a value-added portion? Is there surplus labor? How does it depend on other enterprises for survival, i.e., will the cropping program conflict with the manure disposal timing?

Environmental Stewardship

- ✓ Develop a manure management plan as part of a farm conservation plan.
- ✓ Secure adequate land base for manure application.
- ✓ Prepare a nutrient management plan, including a cropping sequence and application of manure at agronomic rates for the cropland available.
- ✓ Decide on an acceptable manure storage and handling plan consistent with Right to Farm practices.
- ✓ Plan building sites to facilitate efficient manure handling.
- ✓ Make sure water is available — applicable permits, cost to hook up to source, etc.
- ✓ Explore possibility of cost sharing for handling and application equipment, lagoons.
- ✓ Develop a contingency plan in the event of a catastrophe.
- ✓ Submit plans for approval to business partner(s) and the farm manager.

For more information and a resource list, contact Larry M. Granger, DVM, Michigan Pork Alliance Networking Coordinator and Swine Species Veterinarian, Michigan Department of Agriculture, Phone: (517) 373-8201, Fax: (517) 373-6015. ■

Good nutrition improves dry cow health during calving

Calving time is a costly time for Michigan dairy producers with over \$50 million lost annually to health-related problems, says MSU researchers.

For cows about to give birth, good nutrition is important to prevent health-related problems associated with calving, according to a study conducted through MSU's Status and Potential of Michigan Agriculture (SAPMA) project. Billed as one of the most exhaustive studies ever conducted to examine the relationship between body fat mobilization before calving and the incidence of disease after calving.

The diets of more than 1,600 cows from 100 Michigan dairy farms were studied for five weeks before they gave birth and 10 weeks following calving, according to project leader Michael VandeHaar.

Curbing Losses

Before calving, VandeHaar said many of the

cows in the study were using stored body fat to meet their energy needs. This causes fat buildup in the liver which can affect health and milk production. It also places stress on the cow's immune system and can make her more susceptible to disease.

Veterinary care and lost milk income from metabolic diseases and fertility problems during the first 10 weeks after calving now cost the Michigan dairy industry approximately \$50 million annually, says VandeHaar.

"Based on the results of our studies, farmers should try to increase the nutrient intake of pregnant cows in the last two weeks before calving by feeding more nutrient dense diets and/or encouraging cows to eat more," VandeHaar said. "They should feed their cows more grain and higher quality forage, and let them eat as much as they want."

A study conducted at the MSU Dairy Research Farm confirms VandeHaar's recommendations. Research on 80 different feeding trials showed that cows fed a high quality diet increased nutrient intake and were in better nutritional balance for the stress of calving. Researchers also found they could prevent the loss of bodyfat before calving.

Dry Cows Need Attention

The SAPMA field study of 100 dairy farms around the state found that even many well-

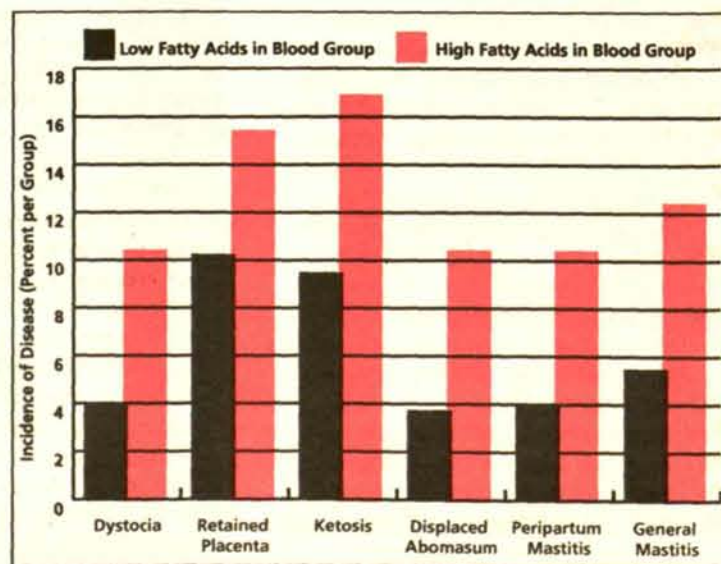
managed dairy operations were not paying enough attention to the nutritional needs of the dry cow. Instead, most of the attention was being focused on the cows producing milk simply because those cows were the ones providing income.

"Farmers need to realize that even though the dry cow is not making a profit, paying attention to her in the three weeks prior to calving is one of the best investments any dairy producer can make," VandeHaar explained.

Diet influences birthing problems and production potential.

Cows with poor diets before calving suffered more dystocia (problems with calving due to hard labor, retained placentas, more ketosis, and more cases of mastitis). Finally, the study found that dry cows with poor diets were more susceptible to displaced abomasums.

"Displaced abomasums are often treated before they become fatal, but just because you saved the cow doesn't necessarily mean that you saved your profit," VandeHaar said. "The condition can put a lot of stress on the animal, which means it will produce less milk and less profit for the remainder of her lactation." ■



Segregated early weaning — increasing pork production without expansion

Growing pains and a desire to increase the number of farrowings per year had Kalamazoo County hog farmer Tim Vosburg looking for alternatives that would allow him to do so without building additional facilities, or sacrificing herd health. SEW or Segregated Early Weaning provided him the solution he had been looking for.

With SEW, pigs are weaned at 14 days and moved to a "segregated" nursery away from the sow, and fed a crumble feed to replace the sow's milk. Early weaning, at 14 days, keeps the pig's immunity levels at their highest levels and reduces the chance of the pig picking up any diseases from the sow.

Vosburg, who operates Vosburg Farms, a 450-sow and cash crop operation in partnership with his father Jan, was in need of additional farrowing room when the operation first started using SEW. The farrowing operation was reaching 80 litters a month but only had 46 crates available. The development of new feeds finally made SEW a viable option for Vosburg who implemented the program about 18 months ago. "The feeds they have come out with now are actually better than the sow's milk," he explained.

Death losses quickly dropped from 15 percent under the old management system to less than 1 percent, while also improving the number of litters per sow from 2.2 to 2.7 turns per year. "We figure that we're actually getting another half litter per sow per year," he said. A bout with Porcine Reproductive and Respiratory Syndrome, or PRRS, 3 months after he started SEW makes it difficult to accurately compare production averages currently, however.

Once pigs are moved into the nursery pens at 14 days, they're kept there for another five weeks before being moved into fat lots at approximately 40 pounds. Reducing disease exposure and the number of pen changes means reduced stress, which improves production gains, according to Ohio State University. Research there showed that pigs raised

under SEW finished 30 days faster than other pigs.

"Every time you move a pig or change its feed, you set it back two or three days," Vosburg explained, "so when you do both, you've set that pig back four days and that just keeps adding up. That's one of the biggest reasons we made the change."

Vosburg's nursery pens are built in renovated facilities on a raised wire mesh floor, complete with a heating and ventilation system that keeps the temperature at a constant 80 degrees and provides a complete air change once every 20 minutes in the winter months, and once every two minutes in the summer months. Humidity control, says Vosburg is critical. "If you can keep it dry, a lot of the diseases will never show up," he said.

Space requirements for a 14 day old pig averages 1.6 square feet per pig, while 50 pound pigs require 2.6 square feet. Vosburg designed his pens according to space requirements for the larger pigs, and uses a divider panel to split the pens and increase capacity for the smaller pigs following SEW.

During the first week of SEW or the "first step," Vosburg recommends feeding the new pigs every three to four hours to help make the feeding transition from the sow to the feeder. After the first week, pigs are accustomed to the feeder and have feed available at all times.

While the feed itself can be costly, Vosburg says the payoff in improved performance, plus the feed saved in feeding the sow more than justifies the expense. "It might take me 50 pounds to feed the baby pigs, but it would take 500 pounds to feed the sow to get the same nutrition in those baby pigs," he explained. "To match the feed and nutrition that these pigs get, from 14 days on, would require a sow to produce about 40 pounds of milk per day to keep up."

In terms of sow health, Vosburg says quick breedback has been the biggest challenge. He's using lutalyse within 24 hours of farrowing to ensure cleanout, followed up with a hormone treat-



With SEW, pigs are moved to these "segregated" nursery pens at 14 days of age and held there for five weeks to reduce disease exposure.

ment, called PG-600 at weaning to help bring the sow back into heat quicker. No special procedures are required to adjust the sow to the quicker dry-off, either says Vosburg.

Other changes at the Vosburg operation have been substantial as well. A total of 400 new gilts were brought into the operation a year ago and a cull replacement program has been instituted to replace approximately 150 sows per year. Artificial insemination was also started this past December on 90 percent of the herd to speed up genetic improvements. Vosburg also contracts with a neighboring producer to finish out a portion of his hogs.

Although Vosburg has been able to successfully renovate and use existing facilities, in an ideal

world the nursery should actually be located offsite, at least a quarter-mile upwind from the sow facilities. "You would also have someone else taking care of the pigs to reduce the chance of spreading disease even more," he explained. "When you're in here with the sows every day, and then you're turning around and walking into the nursery, you're still taking the disease in there with you."

So, despite renovation costs and learning a whole new system, would Vosburg ever go back to the previous system? "I think that the pigs are so much healthier that I would never turn back around now — there's no way I would ever go back," he concluded. ■

Effects of labor efficiency of heifer raising cost

Labor is the second largest expense associated with raising heifers. Feed is the largest expense. Together, feed and labor make up 75 percent of the total cost of raising a dairy replacement. These expenses were analyzed for a recent study on heifer-raising costs. Eight farms in western New York were chosen to be part of this study based on dairy replacement housing, size and age of heifers at first calving and body condition. The results of the study demonstrate the effect facilities and labor practices have on total labor costs.

Labor efficiency

Measuring labor efficiency is one way to analyze how well labor is being used. To analyze labor associated with dairy replacements, a measure called "heifers per labor hour" is used. Heifers per labor hour

measured how many dairy replacements are taken care of in one labor hour. This measure includes time to feed, clean, bed, move and manage heifers. The higher the value, the more efficient the labor.

The average heifers per labor hour for the eight farms studied was 49.1, with a range of 37.6 to 67.8. To further analyze labor efficiency within the dairy replacement program, heifers per labor hour was determined for pre-weaned and post-weaned animals. Pre-weaned heifers per labor hour was 13.7, while post-weaned heifers per labor hour was 68.5. This verifies the high labor requirements for calves on milk. A second method used to measure the total labor requirements for dairy replacement enterprises was to calculate worker equivalents for

the enterprise. On these eight large dairy farms, an average of .95 was used within the heifer enterprise. The range was from 1.23 to .69. The third measure used to evaluate labor was total cost, which averaged \$138 per animal and ranged from \$163 to \$97.

Combining these measures indicates areas where dairy farmers may be able to reduce costs. If labor efficiency can be improved, less labor will be required in the heifer enterprise and the cost of raising heifers will decline.

One worker equivalent, as defined by Cornell Dairy Farm Business Summary, equals one person working a 55.2 hour week for 50 weeks, which equals 2,760 hours a year. The range is based on an average of 354 heifers.

Facilities

One criterion that was used to select farms for this study was type of structures used. Six farms were using free-stalls and two farms were using counter slopes and free-stalls for the majority of their housing. Hutches and small bedded transition pens were used for the young calves. The overhead and operating costs of buildings comprised 6.52 percent of the total cost to raise heifers. These housing styles have a major impact on labor efficiency. The ability to perform all tasks associated with managing heifers from the seat of a tractor was the single greatest factor in improving labor efficiency within the heifer enterprise. ■

Problems and predictions for livestock producers

Continued from front page

"The bottom line is that the people who made money in the beef industry in 1995 were not those who sold cattle, it was those who sold beef. And there's a big distinction."

He said that feedlot operators had a "break-even year" in 1995, showing profits of \$2 per head, which was much better than in 1994. Overall, Kirk predicts a 4 percent drop in cattle prices paid to producers for 1996. And he predicted the industry rate of growth would actually be lower than other market analysts have said.

On the hog side — 1995 was a record year for hog slaughter, pushing nearly 100 million head. Kirk said one factor contributing to this record was a 16 percent increase in the processing and slaughter capacity of U.S. packers.

U.S. hog productivity is heading toward moderation, with the level nearing 2,400 pounds-per-sow, says Kirk and hog production, like cattle, also is expanding. He's surprised that the industry has continued to grow "in the face of \$3.75 corn."

Kirk predicts that the major hog-producing states — Iowa, Kansas, Missouri, North Carolina, Ohio, Tennessee and Oklahoma — will all increase their hog numbers this year. But, noting 10-year trend lines, he said the start of a hog liquidation trend could begin to reveal itself.

On the bright side, for the first time in over 40 years the U.S. has become a net pork exporter. "The fact is GATT and NAFTA are working in the hog market... we are taking shares away from Denmark substantially," Kirk explained. "We have finally moved to a net exporter of pork, after 40 years as a net importer of pork. I'll go out on a limb and say the U.S. may well, within 10 years, be the world's dominant exporter of pork because of trade barriers being broken down."

Kirk speculates the average hog price for 1996 will be around \$43.50 per hundredweight, up nearly \$1.50 over last year's average. But, he said, the break-even price for producers is expected to be around \$47 to \$48 when the higher corn prices are figured in.

The key to the hog and cattle markets is the corn market, advised Kirk. "Cattle in feedlots and hogs eat lots of corn so high corn prices naturally translate into higher costs of production — cutting into the producers' bottom line," he said.

"For every 10-cent increase in the price of corn... 700 to 800 pound yearling steers go down by about 60 cents per hundredweight," Kirk added, noting the current corn market is more than a \$1 higher than last year. He said the higher corn prices have cut approximately \$6 per hundredweight from last year's prices on the yearlings and more than \$10 per hundredweight less returned to producers on their calves. ■

Building to a Higher Standard

\$30,395.00

54' x 13' x 90'
Deluxe Machinery Storage



- 1- 24' x 14'6" ALLUMASTEEL® Double End Door
- 1- 22'6" x 13' ALLUMASTEEL® Double Side Door
- 1- 9'-Lite T300 Walkdoor
- 1- 4' x 3' 9'-Lite Window w/ Shutters
- 8 Skylites

- 2' Endwall Overhang
- 1' Vented Sidewall Overhang
- Continuously Ventilated Ridge
- Exterior Wainscot
- Interior Protective Liner
- FLUOROFLEX 2000™ Revolutionary Paint System on Roof

- Premium Kynar 500®/Hylar 5000® Paint System on Sides
- Gutters & Downspouts
- Free Morton Weathervane

\$23,375.00

54' x 13' x 90'
Basic Machine Storage



- 1- 24' x 14'6" DED (Wood)
- 1- S300 Walk Door White Only
- White Polyester Paint System
- KYNAR 500®/HYLAR 5000® Color Trim
- Gutters & Downspouts
- Free Morton Weathervane

800-447-7436
MORTON BUILDINGS
P. O. Box 399, Morton, IL 61550
© 1996 Morton Buildings, Inc.

All warranties include material and labor and are not prorated. Special pricing includes taxes, materials, labor and delivery & unloading within 40 miles of a Morton Buildings' sales office. Customer must provide a level building site with no underground obstructions which would create the need for extra equipment and must participate in the three step payment plan. Prices may vary due to local building codes. This offer is good through April 30, 1996.
Kynar 500® Trademark of Elf Asochem, NA
Hylar 5000® Trademark of Ausimont, U.S.A.

Adrian, MI (517) 263-0541 • Brown City, MI (810) 346-2702 • Kalkaska, MI (616) 258-2580
Rockford, MI (616) 874-6400 • St. Johns, MI (517) 224-6892 • Three Rivers, MI (616) 279-5271

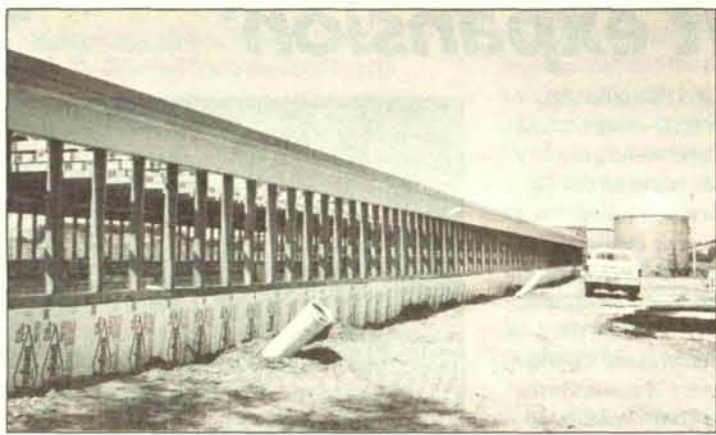
Contract finishing hogs — Would it work for you?

Although the concept of hog production contracts has caught more than its fair share of bad press recently, contract finishing hogs provides opportunities for both new entrants and established operations to capitalize on new technologies and management strategies while also eliminating some elements of price risk, according to Dr. Laura Martin, livestock industry specialist at Michigan State University's Ag Economics Department.

Questions to Evaluate if You're Considering a Hog Finishing Contract

- What's the length of the contract, and how can it be terminated?
- Who holds title to the manure and who is responsible for waste management procedures?
- Who is responsible for dead animal disposal?
- Do you have to accept all animals, or can you reject those pigs that you feel are unhealthy?
- Do you respect the knowledge and experience of the company's field representative who supervises your farm?
- What is the reputation of the company or individual offering the contract?
- If you produce grain, will the contractor purchase any of it to use as feed?
- Do you fully understand how your contract payment is calculated?
- How variable will your payments be?
- When will you be paid and by whom?
- Will you be penalized if you have less than average or standard productivity measures (i.e., feed conversion or death loss)?
- Who provides labor for loading and unloading animals?
- Does the contract clearly state how many animals are in the agreement, and when the animals will be delivered and marketed?
- Does the contract clearly state the weight of the feeder pig (or a weight range) at time of placement and the weight of the finished hog at time of removal? For contracts based on pounds gained, this issue is critical!
- Does the contract offer you a reasonable return on your labor and management?
- Who provides for insurance on the animals?
- Can other hogs be raised by the grower?
- What happens if the owner or integrator exits from the pork production business?

Source: *Contract Finishing for New Entrants in Pork Production*, AEC Staff Paper #96-11, Feb. 1996, by Dr. Laura Martin, Dr. Dale Roseboom, and Dr. Gerry Schwab.



Generally, a minimum 1,000-head unit, such as this one under construction, are common in swine contract operations, says Martin.

Contrary to the perception that contract finishing means the demise of individual producers, Martin says contracting, regardless of how large or small, means an opportunity for producers wanting a future in hog production. "Contract production and contracting doesn't mean that you're giving up the family farm — you can still have coordinated hog production and still involve the traditional family farm," Martin suggested.

She says that contracting is an ideal way for operators to take advantage of "coordinated production" and specialize in one aspect of hog production instead of attempting to manage the entire operation from farrow to finish.

"I'm talking about things like all-in, all-out technology, split sex feeding — these technologies all require a very large sow herd," Martin explained. "Contracting or networking can allow individual producers to work these concepts into their own operation."

While the current trend in new hog contract finishing facility capacity in Michigan is 10,000 head, Martin estimates that at least 12 different operators are offering production contracts, that vary considerably in terms of size. Older facilities are commonly used, and there are some 500-head facilities being constructed.

Environmental Consequences?

Environmental concerns have dominated producer meetings on contract finishing says Martin, with questions being raised regarding odor and nuisance complaints, and township zoning. "That's a common problem throughout Michigan and agriculture for intensive livestock operations. We have to get those issues in order before we can truly expand because we want to do it in a way that's economically and environmentally acceptable," Martin said.

Martin contends that contract finishing is actually beneficial in regards to manure distribution, since contracting could move the pigs and the manure into non-traditional swine growing areas and producers. "Those might include cash crop

producers who, by putting up a finishing facility can take manure from a 1,000-head finishing barn and utilize the manure nutrients in the cropping rotation," she said.

Payment Terms

There are three versions for payment commonly used in contract finishing:

1. Payment per pound of gain + Potential bonus

An example of this type of contract would

be contractual fee such as: Payment = \$0.05 (pounds gained) + a feed conversion bonus + a mortality bonus.

2. Payment per hog marketed + Potential bonus

A contract payment such as this might include: Payment = \$10 head marketed + a feed conversion bonus + a mortality bonus.

3. Payment per square foot

With this contractual payment scenario, a producer payment is based on the square feet (or pig space) available in the finishing barn: Payment = \$4 square feet available in the barn + mortality bonus

Of the three different payment methods, Martin says that Michigan contracts are typically based on payment per hog marketed plus a potential bonus for feed conversion and mortality, while nationally, payments are typically based on pounds gained.

"It's a lot easier to count animals than it is to count pounds gained, particularly if you're doing a payment per head plus mortality, you don't have to worry about weighing, or calculating feed conversions, all of which takes labor, Martin cautioned.

Typical fees paid per head in Michigan range from \$10 to \$13 per head for production contracts in new finishing facilities, while payments can and will typically be less in older renovated facilities, says Martin.

Mortality bonuses are typically received if death loss is less than the standard 2 percent. A conventional mortality bonus increases the payment on only those extra animals that were expected to be lost. For example, in a 1,000-head finishing unit with an expected death loss of 2 percent, you would expect 20 hogs to die. If only 12 died, then a mortality bonus would be earned on the extra 8 hogs ranging from \$10 to \$50 per head.

Feed conversion bonuses are typically 0.50 for each one-tenth difference between a standard feed conversion ratio and the grower's actual feed conver-

sion ratio multiplied by the number of animals marketed. Standard ratios range anywhere from 3.0 to 3.4.

Likewise, the incremental value may be less than or greater than \$0.50. For example, if the standard feed conversion ratio in the contract is 3.2, but your herd had a 2.9 feed conversion, then you would earn a \$1.50 bonus (50 cents for each 1/10 difference) on each animal marketed. You could also be penalized for feed conversion ratios above an established standard.

Establishing a Contract

The most nerve-wracking aspect of contract finishing is feeling secure about who you're doing business with and it should be says Martin. "You're making a business arrangement, so you need to ask yourself if this person is going to be around in five years. What is the financial status of the person? What is their reputation? Is this somebody you'd want as a business partner? Because that's really what it is," she advised.

From the farrowing side of the equation, Martin says producers need to ask the same questions, and look for someone who's committed and responsible. "It really doesn't matter in some instances, whether or not this is someone with previous livestock experience, because most contractors will offer their own expertise and advice and even have a set of expected or suggested management practices," she said.

Average length of contracts can vary, but generally five to seven years is recommended according to Martin since shorter contracts expose both producers to added risks. One other critical issue is the hog flow or "turns" through the facility. While three turns is a number often used, Martin says unless feeder pigs are coming in on the heavy side, it may be somewhat difficult to make three full turns a year.

"It all comes back to how you're being paid. Are you being paid on pounds gained, or are you being paid on a per head basis?" Martin asked. "If you're putting in 40-pound feeder pigs and finishing them to 250, you're going to be pushing it to get three turns. Likewise, if you're turning it more quickly but putting on less pounds, it may be the same as putting on more pounds and turning it less frequently."

Production Contracts — How do They Work?

| Item | Contractor | Producer |
|--------------------------------------------------|------------|----------|
| Land, access road, buildings equipment and water | | X |
| Waste handling and disposal facilities | | X |
| Feeder pigs | X | |
| Feed ingredients, processing, delivery | X | |
| Veterinary Services and Medication | X | |
| Fuel, electric, and phone | | X |
| Repairs and Supplies | | X |
| Marketing and Transportation | X | |
| Labor: Production and maintenance | | X |
| Labor: Supervisory and specialists | X | |

Discussion Topic

April 1996

A monthly resource for the Community Action Groups of Michigan Farm Bureau



To prosper in the future, Michigan agriculture needs to continue finding ways to provide added value to our traditional farm commodities. Adding value to agricultural products can take place on the farm or at virtually any level in the marketing chain. Value-added can take on many forms, including on-farm packaging, direct selling, and cooking and serving gourmet food products. Michigan's value-added success stories include Graceland Foods' dried fruit products, Michigan Milk Producers' Association powdered ice cream, and controlled atmosphere storage that has extended the "fresh" market season for Michigan apples.

Telling the difference between trend and fad can be difficult in figuring out the future demand for many market products. This also is true for food, but taking a look at the basic, long-term forces affecting food consumption can be helpful.

For agriculture, slow general growth in future domestic demand for food is expected. The demand for food is influenced mostly by changes in

Value-added processing

population and its distribution, incomes, and tastes and preferences. For a necessity of life like food, a key indicator of food demand growth is the number of people who will need to be fed in the decades ahead. Population growth can be characterized as slow and steady in the cases of the United States and other developed countries. Domestically, the population is expected to grow 15 percent during the next 30 years — half the rate of increase experienced in the previous 30 years. In Europe, the population growth rate is even slower.

Income growth is another important source of demand growth for most products, but it is less so for food in relatively rich countries such as the United States. Once people are well-fed, as they generally are in this country, they tend to spend additional increases in income on items other than food. Consumers will purchase more clothes, take more vacations, and trade for bigger or better cars and homes — but they generally do not eat four or five meals a day after receiving a healthy raise. Internationally, population and per capita income growth can be extremely important influences on food demand and, by extension, the export of U.S. food products. From the United States' viewpoint as an exporter, ability to pay does not always go hand-in-hand with population, or even, income growth.

Even though increased incomes in the United States do not increase significantly the quantity of food eaten, higher incomes allow people to travel more and to be exposed to new foods and ways of preparing food. Restaurants also introduce people to new food tastes. As a result, America's food prefer-

ences are undergoing dramatic changes. While globally, food consumption is becoming similar, the domestic demand for foods is becoming more diverse. Part of the increased demand for food variety is explained by the changing cultural mix in society. In 1986, for example, nearly 40 percent of the immigrants to the United States were Asians, and nearly 40 percent were Latin Americans. Only 15 percent had a European heritage. This ethnic diversity will continue to grow, and it will spawn an increasing diversity of lifestyles and food types demanded and supplied.

As incomes rise in Western countries, residents of prosperous developed nations reduce their consumption of high-fat and high-calorie foods in favor of more grains, fruits and vegetables. People are increasingly health-conscious in affluent countries, so foods positioned as healthy or organic are growing in popularity. Consumers also want safe food, and many are concerned about the use of additives and chemicals in the processing and production of food products.

The aging of America is also not a positive trend for food demand growth, since older people tend to need 25 percent fewer calories than people in their 30s. Therefore, in the case of domestic food demand, agriculture should look beyond the traditional sources of increased demand to other potential growth opportunities.

This trend away from food commodities and toward food products is part of what has been called the industrialization of agriculture. The term recognizes that new lifestyles, shifting demographics, and a growing appreciation for the link between

diet and health are causing food companies to customize food products.

In part, the change taking place in the food sector is an acknowledgment that what is important to consumers is what is important in the production of food products. In that capacity, biotechnology holds almost unlimited promise to isolate and transfer specific characteristics into food products. Building on current and prospective genetic and management advances, biotechnology could spawn new classes of food products, each aimed at specific and well-identified consumer food markets. At the same time, innovations in information technology from scanning to precision farming also will help farmers keep production costs down.

Discussion Questions

- 1) What are some promising new value-added food processing techniques? What can Michigan agriculture do to encourage value-added processing in the state?
- 2) How many in your group are "value adding" or upgrading their ag production? In what ways is this being done? What are the main obstacles to value adding on your farms?
- 3) How can Michigan agriculture best position itself to take advantage of increasing global demand for value-added agricultural products?
- 4) What can producers do to better determine consumer preferences for new food products?

Michigan Farm News Classified

01 Farm Machinery

1038 STACK LINER WAGON: Like new condition! Priced to sell. Call 1-517-843-6932 evenings.

1959 JOHN DEERE 430W with three point, \$5,800. 1-517-686-0486.

1974 GLEANER F combine with 4-row wide corn head and 13' grain head. 1979 Ford F-250, 4x4 pickup. Engine needs work. Call evenings, 1-616-674-3681.

1979 FORD Tri-axle farm truck. JD4310A beet harvester. Speedy beet topper. JD4630 tractor. JD dummy head with Innes pickup. JD 25K-3 PTO generator. Calumet 3250V manure spreader with injectors (bad tank). 1-517-673-7470, 1-517-673-7171.

20' BADGER UNLOADER: Good motor! New covers. N.H. 890 chopper, corn, hay heads. N.H. 12' 495 haybine. N.H. #28 blower. JD #220 center fold, 17' disk. 1-517-587-6842.

3250 GALLON CALUMET, top load liquid manure spreader with agitator and tandem axles. 1-517-647-0008, evenings.

AC #72 PLANTING UNITS for sale. \$50 each. Call 1-517-593-2244.

AC 180 DIESEL TRACTOR: New model 50 J-Star 50' belt conveyor (less motor). \$1475. Call 1-517-386-2192.

ALUMINUM IRRIGATION SYSTEM for sale. Will cover five acres, 2", 3" and 4" pipe, with PTO pump. 1-517-727-9945.

BADGER RING drive silo unloader, 18' diameter. Excellent condition! Dismantling silo, \$1000. 18x50 cement stave silo. Make offer! Cheboygan, MI. 1-616-625-2036.

FARM FANS: AB250 grain dryer, one phase, L.P. fuel. Hutchinson 8"x54' transport auger, PTO. Hutchinson 6"x54' transport auger, PTO. Harvest Agri Systems 1-800-722-8070.

FARM FANS: CF/AB270 grain dryer, one phase, natural gas with focus control. Harvest Agri Systems 1-800-722-8070.

FARM FANS: CF/AB320 grain dryer, one phase, L.P. fuel. Harvest Agri Systems 1-800-722-8070.

FOR SALE: IH 843 CORN HEAD, 4 row, 30", good to excellent condition, always housed, \$3,250 or best offer. 1-517-681-4251.

FORD, NEW HOLLAND tractors and equipment from Symon's in Gaines. For 43 years your best deal for the long run! Symon's 1-517-271-8445, Gaines

01 Farm Machinery

JD 4250, duals, 4100 hours, through dealer 25-point winter program. Very good! \$28,900. Ford 8600 cab, \$7,950. Case IH 2096 CHA with 1900 hours, \$24,900. 1-616-979-2171.

JD 7000 4-row wide corn planter. Plateless finger pickup, monitor liquid, 2000 acres, no till units on seed units. Always housed. Excellent condition. 1-313-428-7758.

JD 7000, 4-ROW PLANTER: Narrow row, has insecticides, plateless and dry fertilizer. 4-row Swedish tine cultivator rolling shield. Both excellent condition! 517-838-4418.

FACTORY CLEARANCE
INVENTORY MUST BE SOLD!
STEEL BUILDINGS
Made in USA
SUPER HEAVY STEEL
25x30 (2 left) 40x50 (1 left) 50x100 (1 left)
30x40 (3 left) 42x64 (2 left)
UP TO 40% OFF!!!
20 YEAR WARRANTY
American Steel Arch Inc.
FACTORY DIRECT
1-800-942-1234

SWEET CORN Harvester: FMC Model 12, 1-row pull type, 60hp with Wisconsin engine. Completely self contained. Excellent condition! \$6000 invested, best offer. 1-616-684-1085 after 7pm.

TFI, SIX ROW, ROD PULLER, wind tower, end or center delivery, three years old, 700 acres, asking \$9750. 1-517-686-0486.

H & S, 8x16 steel kick bale wagon, without running gear. Very good condition! Delivery possible. \$875. 0011-616-636-8449. North Kent County.

INTERNATIONAL VIBRA Shanks, chisel plows, offset disks, wing disk, cultimulchers, drills, spreaders, balers, haybines, rakes. Large selection of tillage and haying equipment. Call after 1pm., 1-517-773-5374. Dan Reid.

JD 3020 w/146 loader, \$8000. Farmall Super MTA, \$3000. Both new paint. Patz gutter cleaner, \$1500. New Idea 255 M/spreader, \$1100. Zero 800 gallon tank w/compressor, \$1600. Semen tank \$100. Grain bin, \$500. Tri-axle 5th wheel, \$500. 1-517-772-9231.

01 Farm Machinery

JOHN DEERE 1240 FOR SALE. Four row planter, excellent condition, 1-517-723-5672.

JOHN DEERE 3950 forage harvester with hay and corn head. New Holland 116 swing frame or conditioner. Call 1-800-800-9548. Ask for Dave.

JOHN DEERE with plow and John Deere B. Good sheet metal and running condition. 1-616-279-2565 or 1-616-279-2480 evenings.

MANURE SPREADERS: New and used. Balzer, Better-Bilt parts. UPS daily. Also, grain dryers and handling equipment. Hamilton Distributing Co. 1-800-248-8070

NEW HOLLAND 455 and 456 hay mowers and 402 hay crimpers. Rosensaw corn huskers, corn binders and grain binders. Call 1-810-628-4147.

NEW IDEA COMBINE, 13' head, 3 other heads. New Idea super sheller, narrow row, \$1600. Ear corn attachment available, \$1200. International Harvester 500 D Dozer with 6 way blade, low time used, \$5200. Allis-Chalmers 190 XLT-S3 with 5/16 semi plow, M-M 670 diesel, low time, \$3800. Oliver 88 rebuilt 1990, live PTO, live hydraulic, \$1800. Ford 8N, low time, reconditioned in 1994, \$2400. Farmall A with tools, \$2400. M-M-U with loader, \$1800. John Deere 6-row narrow planter, \$650. International Harvester, 4-row narrow planter, \$450. Call between 6-8pm. 1-313-279-1762.

One BUTLER KANSUN 8-17-15 grain dryer 1ph. LP continuous flow. Two Butler 1200 BU hopper bins, 12' diameter. Harvester Agri Systems 1-800-722-8070

ROTARY HAY RAKES. Deutz Allis. Excellent! \$2500. Kuhn, needs repair, \$1500. Light duty running gear, \$250. 24' elevator, \$300. Gravity wagon, \$350. Fencing and livestock miscellaneous, \$200. 1-517-834-2576.

02 Livestock Equipment

L. B. WHITE HEATERS: New, used and parts.
BULK FEED BINS! New, used
HOG EQUIPMENT! NEW, USED
PORTABLE HUTS!
Growe Systems
Mason, MI
1-800-676-4142

03 Farm Commodities

MICHIGAN CERTIFIED SEED: Newdak, Porter, Prairie oats, Bowers barley, Felix Conrad, Century 84, Vinton 81, soy beans. Chinook light mar reds. Also, Dairy Brand and crystal alfalfa. B&M Seed 1-517-463-2846

QUALITY ALFALFA and mixed hay. Almont, Michigan. Ferguson Farms 1-810-395-7512

STRAW: Clean 1995 straw. Semi quantity. How is your supply? Call 1-313-439-8703, leave message.

03 Farm Commodities

400 POUND SQUARE bales straw and 1st and 2nd round bales hay. Delivery available! Edward Kalis Winn, 1-517-866-2540

ALFALFA HAY, all cuttings, round bales, approximately 700 pounds. Excellent quality, no rain, stored inside, call Marcellus, MI 1-616-646-9821 or 1-616-646-9940.

FIRST CUTTING HAY for sale. Stored inside! Never wet. Call 517-831-4517.

MICHIGAN CERTIFIED Seed. Montcalm dark red kidney beans, Vinton-81, tofu soybeans, Jack's soybeans (excellent yielder). Bulk/bag. Early season pricing. Valley View Seeds 1-517-693-6155 1-517-693-6628

04 Seeds

FOR SALE: AuSable seed oats. Purity, test weight, and germination tested. Call Duane Basel at 1-517-734-3694.

FOR SALE: Cleaned Mancan buck wheat. Tested 99% purity. Call 1-800-800-9548 before, 6pm. After 6pm., call 1-616-546-3268.

MICHIGAN CERTIFIED SOY-BEAN SEED: Kenwood-94, Conrad-94, BSR-101 and Hardin-91. Also, certified Newdak oats seed. Call Schmidt Farms of Auburn 1-517-662-6705 1-517-662-2695

05 Livestock

15TH ANNUAL CLUB LAMB SALE: April 20, 1996, 1:30pm. Topper Sired Suffolk Lambs. Dick and Betty See-lye, RR 1, Hersey MI. Information, call 1-616-832-9629.

FOR CURRENT LIST of available Angus Cattle, write: Secretary, West Michigan Angus Breeders, 585 36th Street SW, Grand Rapids, MI 49509.

FOR SALE, BRED COWS: Simmental/Limosine/Hereford-cross. Some bred to a Simmental Bull, due to start to freshen the last week in March. Some bred to a Limosine Bull, due to start to freshen the first week in April. 1-517-967-3506 evenings, after 6pm.

HIGH QUALITY HOLSTEIN service age bulls from high producing cow families and top sires. Pasch Farms, Inc. 1-517-644-3519

LLAMAS ARE GREAT, and now they're affordable! These docile, intelligent animals make wonderful pets for hiking, packing, picnicking, pulling carts, or to just plain enjoy. Their wool is valuable and they also make outstanding guard animals. Call for a visit today! 1-616-677-3309. Ron and Nancy Laferriere. Laferriere LLamas Marne, Michigan (Just northwest of Grand Rapids)

LLAMAS: North American Sittling Bull and Essex bloodlines. Pet males and weaning females. Reasonable priced! Call for more information and visit. 1-517-645-2719. Miller's LLamas and Potterville, MI

REGISTERED POLLED Hereford breeding age bulls, heifers. Also A-1 heifers and cows. Rocky Banner bloodlines. MSU performance tested. Call Rye Hereford Farm 517-734-3005

Pasture Mat
The Golden Standard in Cow Comfort
This is the only mat that feels, gives and behaves like natural pasture — thereby reducing impact-related injuries.
Pasture Mat Features:
• Your cows will spend up to 14 times longer lying in the stalls than with solid rubber mats.
• Multi-celled mattress filled with uniformly sized rubber crumbs.
• Will not tear, stretch, deform or lose its shape because of tough, top wear skin.
• Non-organic Pasture Mat System does not support production of bacteria.

Call us Today! **FOXWORTHY SUPPLY**
Foxworthy Supply • 4650 20-Mile Road • Kent City, MI 49330
(800) 632-1423

BLUEWATER BRAND
Private Label Soybean Seed
★ HS 1810 LATE GROUP I ★ HS 2510 MID GROUP II
Michigan Certified Seed
Spring Barley • Bowers • Oats
Prairie — Newdak
Harrington Seeds Inc.
2586 Bradleyville Road • Reese, MI 48757
Tel: 517-868-4750 • Fax: 517-868-3671

05 Livestock

REGISTERED POLLED HEREFORD Bull. Four years old in April. Tame, have papers. Call between 5pm-7pm., 1-517-435-7694.

LLAMAS: Your visit to our Llama Farm is most welcome! Learn about these fine; easy to care for animals. Woolly pets and halter trained. Weanlings available. Jack & Barbara Danley Horton Bay LLamas 06300 Boyne City Road Charlevoix, 1-616-582-7473

PIEDMONTESE CATTLE Lean, tender, double muscled, good calving ease. Quality registered breeding stock. Also available embryos and semen. Redbird Farms Lapeer, Michigan 1-810-797-4701

QUALITY ANGUS BREEDING STOCK. Performance tested, Bulls semen tested. Free delivery! Also, Border Collie Stock Dogs. Call today. Bordner Angus Farms Sturgis, MI 1-616-651-8353

REGISTERED LIMOUSIN bull. Three years old, gentle and quiet. Easy calving! \$2000. Call 1-517-724-6480.

05 Livestock

REGISTERED POLLED Hereford bull, 4 years old, gentle and quiet. \$1200. Call 1-517-848-5584.

REGISTERED SCOTTISH HIGHLAND CATTLE, breeding stock and semen for sale. Visitors welcome! Call 1-517-543-7979 evenings or weekends. Charlotte, Michigan.

RHEA (South American Ostrich): Three proven breeder pairs for sale. Should produce 150 chicks this summer. First call buys package. 1-810-679-3117 evenings.

Rocky Mountain Elk: Livestock of the Future. TB accredited herd. Animals of all ages! Traverse City, Michigan. Imperial Elk Ranch 1-616-946-5922

TEXAS LONGHORNS: Quality registered breeding stock available. Call 1-616-676-1462 days or weekends. Ada, Michigan.

TOP QUALITY FALLOW DEER. ALL AGES, SEXES, COLORS. Dana Hill Ranch, Hemlot, Michigan. Call 1-517-642-5396.

TRADE (like for like), or sell, registered Simmental Bull. Seven to choose from! Cows and heifers for sale. Call 1-517-689-4696.

06 Poultry

CHICKS, CHICKS, PHEASANTS, Quails, Chukars, Turkeys, Peacocks, Ducks, Bantams, Guineas. Stamp for price list: Rolling Hills Preserve, 17025 McKenzie Street, Marcellus, MI 49067. 1-616-646-9164.

EMU Chicks, yearlings and breeders. Great birds! Reasonably priced. Mirochipped and Vet certified. Boarding available. Support before and after sale. Exquisite Emu's Bellville, MI 48111 1-313-461-1362

Place your ad for 6 months, get phone number or name in red.
Place your ad for 1 year, get phone number or name in red and also save \$1.00 per ad.
Call **1-800-968-3129** for details

HERITAGE BUILDING SYSTEMS
800-643-5555
Summer Sale

| | |
|---------------|----------|
| 30 x 40 x 10 | \$4,927 |
| 40 x 60 x 12 | \$7,976 |
| 50 x 75 x 12 | \$11,180 |
| 60 x 100 x 10 | \$15,957 |
| 80 x 150 x 14 | \$29,655 |

Commercial steel buildings featuring easy bolt up assembly from America's largest distributor. We have over 10,000 standard sizes of shop, farm, industrial, commercial and mini-warehouse buildings. All are complete with engineer stamped permit drawings and a 20 year roof and wall rust warranty. Call us today for a free information package and a quote on our top quality buildings or building component parts.

Mini Warehouse Sale \$9,999
20' x 120' with 7'2" eaves complete with 1000 partitions

Michigan Farm News Classified

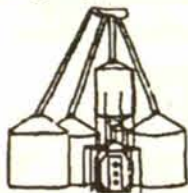
06

Poultry

POULTRY CAGE, layer house and cages (30x170"). Chore Time automated feed system; 8-ton feed tank, nipple water system. Burch Industry egg cooler unit. 1-517-673-3517

JOHNSON SYSTEM INC.

"Designing for Growth"



Complete Farm System

- Grain Bins
- GSI Top Dry
- Airstream Auto Dryers
- Feed Processing & Delivery Equipment
- Bucket Elevators
- Millwright Services
- Dryer Repair & Services

Johnson System, Inc.
Marshall, MI
616-781-9000

HOMEOWNERS!

living from paycheck to paycheck

LOANS BY PHONE

SAME DAY APPROVAL

—Statewide Service. Call Toll Free—

1-800-968-2221

ALLSTATE MORTGAGE

!!!loans by phone!!!

FARMERS

- Livestock & commodity prices too low?*
- Cash flow too slow?
 - Mortgage payments and bills overwhelming?
 - Want someone who understands lenders?
 - Want someone to talk to your lender?
 - Do you understand your options with P.A. 116?
 - Do you need to restructure your farming business?
 - Do you need to consider changing your vocation?
- We can, we have and we do all of the above. Let us help turn your life around.**
Call 1-800-455-9137

09

Help Wanted

INDIVIDUALS for custom harvesting operation. Texas through Montana. 1996 season. Must be clean, honest, hard working with farm background. Full time work possible. 1-402-364-2468.



Lease financing for equipment vehicles & buildings

- 100% tax deductible
- fixed payments
- min advance payment

TELMARK INC.
800-451-3322

10

Work Wanted

WANTED: Caretaker position for couple. Husband experienced in machinery building, maintenance and repair, crops and livestock. Wife experienced in care of horses. Nonsmokers. Excellent resumes, references. 1-616-348-8270.

11

Agricultural Services

EXPERIENCED Michigan agribusiness attorneys with farm backgrounds. Knowledge and experience in all farm areas; restructure, stray voltage, bankruptcy, estate planning. **EAST SIDE:** Thomas J. Budzynski, 43777 Grosebeck Highway, Mt. Clemens, Michigan. 48036. 1-800-463-5253. **WEST SIDE:** Robert A. Stanisha, 40 West Sheridan, Fremont, Michigan, 49412. 1-616-924-3760

SAVE MONEY
Recycle your diesel and industrial air intake filters using the Sonic Dry Clean System. No liquids or detergents used. 50% savings over new filters.

Recycle Now, Inc.
Holland, MI
1-616-396-7724
616-396-8102, Fax

12

Business Services

D&L PROFESSIONAL
HOOF trimming five years experience, reasonable rates. Call Devin Eldred at 1-616-693-3158.

PAINTING & POWER WASHING, barns, out buildings, elevators. Top quality paint, many references. Call for free estimate or information. **JD Quality Painting,** 1-313-429-0084

13

Business Opportunities

FISH FARM, TROUT:
\$249,000 plus inventory. Profitable going business! Two licenses to smoke and breed fish. 18+ acres, nice 3 bedroom home, hatchery barn, mobile home, 22 ponds, 7 wells and electric generator. Near Grand Haven, MI. **Clyde Hendrick, Inc., Realtors,** 1-616-842-5970. **M. Weaver or R. Allen.**

RAISE HERBS, live healthier and wealthier. Huge market! Growers needed. Free information. Send L.S.A.S.E. to Herbs, Dept. E, 1910 Choctimar, Fort Wayne, IN 46808.

14

Real Estate

140 SOW FARROW-to-finish hog barn on five acres located in Tuscola County. Built in 1979. P.A. 116 needs repairs. \$59,000. 1-517-673-7470, 1-517-673-7171.

157 ACRE FARM: Southwest Lenawee County. 101 tillable, 40 wooded, custom home. May split! \$295,000. **Faust Real Estate** Adrian, 1-517-263-8666

FOR DISPLAY AD INFORMATION CALL
1-800-292-2680
EXT. 3203

15

Real Estate Wanted

WANTED TO RENT: Pasture for 45 head cow/calf. Call 1-517-773-9773, leave message.

WANTED: Farms and land throughout Michigan, agricultural and recreational. Large parcels preferred. We have buyers!
Faust Real Estate
Adrian, 1-517-263-8666

WILL HELP PAY YOUR TAXES!
Ethical and responsible bow hunter wishes to lease hunting rights to southern Michigan farm on your terms. References available. Call John 1-313-791-0259

18

Antiques/Collectibles

COLLECTORS FARMAL:
1938, F-14, Rubber nice! Plow pulley, also enough parts to make F-12. Plus extra frame assembly wheels/drive others. \$6000 takes all. 1-906-338-2731.

Mineral Owners Gas/Oil:
Investor interested in purchasing, producing royalty income for immediate cash. Prefer Antrim gas. Other formations considered. Call Jay, 1-800-968-7645.

19

General

60 ACRES of good farm land for rent, Holt. Call 1-810-264-9046.

FISH FOR STOCKING: Giant Hybrid Bluegills, Rainbow Trout, Walleye, Largemouth Bass, Smallmouth Bass, Channel Catfish, Perch, Fathead Minnows. **Laggis' Fish Farm, Inc.,** 08988 35th Street, Gobles, Michigan. 1-616-628-2056. Evenings, 1-616-624-6215.

HARDY OUTSIDE WOOD FURNACE
Words #1 seller. Stainless steel construction. Heats home, hot water tank, pools. Eliminates fire danger. 10 year warranty! Dealerships available. 1-800-743-5883.
Jamboree Acres

FARM AUCTION
Due to recent knee injury, cannot continue farm operation. 8569 Hollister Road, Laingsburg, MI Clinton County (8 miles south of St. Johns via US27 to Alward Road. 8 miles east to Hollister, then south).
Sat., April 27, 1996, 10:30 a.m. Partial Listing
Tractors & combine: 1979 AC 7000 D tractor, cab, heat, AC, 10 front suitcase weight, dual hyd., power shift, stereo, stadium lights, 540 & 1000 PTO, tint windows, good 18.4-34 T rail duals, 3800 hours; 1951 JD A tractor, 3 pt. hitch, new front tires, 1949 AC WD tractor, NF, good tires; 1949 Ford 8N tractor with Freeman dual cylinder loader, 4 speed Sherman transmission, engine rebuilt 1990, new brakes; 1965 Int. 3030 combine, 13' grain head, #328 W 3-row corn head.
Farm Equipment: JD 494A 4-row planter with double disk opener, disk opener front attachment; JD FB-B 13-hole grain drill, single disk, grass seeder, excellent condition; Clark 3 pt. 300 gal. sprayer, 12-row, 2 300 gal. saddle tanks; NH 67 baler, good; Ford 503 3 pt. side rake PTO; Int. 990 haybine, new cutter bar 1995; NI 323 1-row corn picker with 8 roll husking bed, hyd. lift excellent condition; 3 gravity box wagons with gears, 6 ply tires; flat rack wagon with treated rack, standard with gear; JD 1450 4-18" semi mount plow, 20" rib coulters, 14" gauge wheel; JD KBA 12" wheel disk; JD 12' cultipacker with 4" shaft; 10" bar roller; Brillion 18" field cultivator with 3" wings; JD 4-row front mounted cultivator, fits a. b. 60, 70, with rolling shields JD 2-row front mounted cultivator; JS 555 3-bottom trailer plow, hyd. lift; JD 12' 3 section springtooth drag; Ford 3-pt. 2-row cultivator.
Cash or approved check day of sale. Announcements made day of sale take precedence over printed matter.
Mr. and Mrs. Forest (Tuffy) Wolfram,
Proprietors 517-651-5392
Gardon Auction Service, Inc.
6670 E. Juddville Rd
Corunna, MI

FARM AUCTION WITH FOOD HAY EQUIPMENT
Due to death of son, Thomas R. Semans, and due to my health. 1960 Austin Rd., Ovid, MI Shiawassee County (5 miles west Owosso via M-21 to Baldwin Road, 2 miles south to Dewey Road, 2 miles west to corner of Austin and Dewey Rds).
Sat., April 6, 1996, 10:30 a.m. Partial Listing
Skid Loader and Tractors: Clark Bobcat 642 G skid loader with rubber scraper blade, material bucket, line bucket, 300 hours on major engine overhaul; 1988 White 2-88 tractor, cab, dual hyd., 18.4-34 clamp duals; 1968 Case 530 gas tractor, WF, 3 pt., SN8334257; Oliver 77 G tractor, buzz saw.
Hay and Feed Equipment: 1993 Gehl 860 forage harvester with hay head, #TR3038, and 2-row corn head, used on approx. 200 acres; 1992 Hesson 4550 baler, used only 1 year; 1984 Hesson 1014 hydro swing haybine; Gehl 318 3 pt. double 4-wheel rake; Gehl 1580 blower, used little; Onawatana 2-wheel hay rake; Kasten blower; NI 622 blower; Onawatana 95 mixer mill; 2 Forage King bale baskets; 3 Meyers 500 series forage unloading wagons on Knowles 12 ton tandem running gear; Cross 40" elevator with 1 hp. mill with 7 1/2 hp. electric motor; 19' feed bunk auger with motor; 20' beltveyor with motor; 3 ton feed bin with 3" unloading auger; soymeal dispenser unit; 2 flat rack hay wagons.
Implements: Brillion 10' cultipacker; John Blue 500 gal. field sprayer with stainless tank; cyclone PTO Seeder; 8' 3 pt. snow blower; side rake on steel; anhydrous 1000 gal. ammonia tank on gear; Terra Knife 500 gal. anhydrous tank on cart with 5 Harlon knife applicators; Graham Home 8 shank chisel plow, hand lift; old wooden running gear; Lilliston 9680 bush hog, 18-hole no till grain drill with grass seeder; White 5100S 6-row no till planter with 7-row add on bean splitter.
Tank, Generator, Miscellaneous: Zero 1500 gal. bulk tank; Winco 55,000 watt PTO generator on trailer; stock water tank; steel fence posts; 18.4-26 duals; 7 Calf Tel hutches with fences and waterers; pair of 18.4-38 tire chains; jewelry wagon of farm miscellaneous; 3 buildings to be removed (16'x24' grainery, 40'x30' barn, 26'x22' chicken coop with overhead door.
Consigned by Neighbor: 1975 White 4-150 4x4 tractor, 3 pt., hyd. outlets. 18.4-38 axle duals, 500 hours on major overhaul; 1964 Farmall 806 G tractor, SN7373-SY, complete engine overhaul in 1994, T.A. good, 3 pt., live power, good rubber, rear tires loaded, good clutch, no 3 pt. or fast hitch, just swinging drawbar tricycle front end, single hyd. outlet; 1948 Oliver Row Crop 60 tractor, NF side shield and grill missing, good rubber; 1994 Snowco 32" hay elevator on carriage, used on seasons only, always housed; 21' mowveyor with motor; 24' mowveyor with motor; 2 wood custom built thrower bale wagons with gears, 8'x18", housed; Ford 727 hydraulic loader with 2 buckets (also adapts to fill Farmall 806); Huskee elite 4000 gal. liquid manure spreader, 18x22.5 tires, 1000 RPM, brackets for ejectors, like new.
Cash or approved check day of sale. Sale principals are not responsible for accidents at auction nor for items sold. Announcements made day of sale take precedence over printed matter.
Oren Semans, Proprietor
Gardon Auction Service, Inc.
6670 E Juddville Road
Corunna, MI 517-743-4142

AGRILAND EXCHANGE, INC.

Your Full Service Agricultural Real Estate Broker
If you have acreage to sell, we may have a buyer!
Call for more details and information on current listings

2651 Coolidge Road East Lansing, MI 48823
517-336-1570

FARM AUCTION
Due to change in business, I am discontinuing framing. 14317 Gary Rd., Chesaning, MI, Saginaw County (2 miles north of M-57 via M-52 to Gary Road, 2 1/2 miles west).
Tues April 9, 1996 10:30 a.m.
Tractors: 1977 JD 4630 D tractor, cab, air heat, radio, front wheel assist, 18.4-38 axle duals, Q.R. 1964 JD 4020 G tractor, good tires, no cab, 15.5-38 axle duals;
Trucks: 1971 Kenworth semi tractor, 13 speed, tandem, wet line, 425 Cat; Bensen 28 1/2 aluminum dump semi trailer, tandem, good tires, 1980 Ford 7000 truck, 3208 Cat engine, 18' metal grain rack, hoist, live tandem, Allison auto. transmission; 1977 GMC truck, 366 engine, 18' metal grain rack, hoist, live tandem, Allison auto. transmission.
Farm Equipment: JD 223 2-row beet harvester; Opel 4-row beet defoliator; Int. 20' cultimulcher; JD 4-16" semi mount plow; JD 1010 20' field cultivator, hyd. fold; JD 7000 12-row planter, end transport, new PVC auger; Bush Hog 6' 3 pt. rotary mower, like new; 3 pt. 12-row band sprayer boom; pair 130 gal. tanks and brackets with bolt on sprayer boom.
Cash or approved check. Announcements made day of sale take precedence over printed matter.
Jerry Hedrich, Proprietor
Gardon Auction Service, Inc.
6670 E Juddville Rd.
Corunna, MI 517-743-4142

3000 Series **KNIGHT**
Reel Auggie Mixer
Less pressure, friction and wear...faster mixing and better feed quality...all features of the Knight Reel Auggie.

3000 Series Reel Auggies feature the following advantages:

- Blends by gently lifting, fluffing and tumbling the entire load, reducing mix time, power requirement, machine wear, and dead spots
- Aggressive upper and lower auger with hardened, replaceable knives for thorough end-to-end movement
- Shear angle for both upper & lower auger
- Simple slide tray or three auger discharge available

- Oil bath drive with external grease banks
- Constant Velocity PTO with integral slip clutch
- Hay-Max Kit option for better break-up of most hay and bulk materials
- Tow, truck mounted, and stationary units from 147 to 488 cubic feet

New models available 3575 & 3700

For more information or the dealer nearest you, contact:
FARMCO
13619 S. DeWitt Rd., Lansing, MI 48906 • Telephone: 517-669-8391

FARM AUCTION
Having retired from farming I will sell the following described items at public auction on the farm located from Auburn, MI US-10 Freeway exit go 5 miles North on Garfield Rd., then 2 miles West on Beaver Rd., and 2 mi North on Carter Rd., then 1/2 West to 2151 W River Rd. (or 1 mile South of Duel, MI on Fajlope Rd. and 1/2 mile East on West River Rd. to farm. (Bay Co.).
Thursday, April, 11 1996 10:00 a.m.
Tractors: JD 7520 4x4 DSL tractor; JD 4240 DSL tractor, cab, air; JD 4320 DSL tractor, synco range; JD 58 hyd loader w/6' bucket; 1963 Oliver 660 Gas tractor.
Combines & Heads: JD 7700DSL Combine, rear wheel assist; JD 220 flex grain platform; JD 643 6 row high tin corn head, N row. Lilliston 6200 High Cap Bean Combine, airlift.
Trucks: 1973 4310 4 row beet harvester, star bed, auto row finder; JD 7000 8 row n. plateless planter, dry fert. incl., Polycross auger; IH 490 26' hyd. fold wheel disc; IH 750 5x20" auto spring reset plows, semi mtd.; JD 2350-2450 7-18" on land plows, toggle trip; JD 1000 25' hyd. fold field cultivator w/tine leveler; JD 1600 16' 3 pt. chisel plow; JD 155 9' hyd. power angle 9' grader blade; 10 ton port a box w/unloading auger; Lockwood 835 6 row center delivery bean windrower (red) w/updated green drum; Speedy 8 row front mtd. bean pullers orange & black; DMI 4 leg 8 row anhydrous applicator 3 pt.
Grain Set-Up: Butler 14,000 bu. bin w/ aeration floor & fan; 2 Butler 10,000 bu. bins; 1 bin sweep-rotary screener; Butler Kan-Sun continuous flow grain dryer LP gas, i ph #817-15; Butler 1350 bu upright wet bin; GT 6'x51" transport auger 3 hp 1 ph motor; New Idea 8'x51" transport auger, PTO; 6'x30" unloading auger-4 Butler roof vents.
Terms: Cash or good check day of sale.
Robert Mieske, Proprietor
For more info. Call 517-662-6888
Sykora Auction Service, Inc.
Jim & Scott Sykora, Auctioneers
Clare, MI 517-386-9694 or 2252 Fax 517-386-2246

Michigan Farm News Classified

19
General

PROFESSIONAL CATTLE hoof trimming: Statewide! Over 14 years experience. Prices start at \$6. Call **Norman Beale 1-616-775-0488**

SAVE 75% ON WORK CLOTHES! Good, clean, recycled in very best quality. Money back guarantee. Free brochure

Suntex Recycling
Toll Free, 1-800-909-9025

SHREDDED PAPER: Excellent absorbent material-animal bedding. Use instead of straw/sawdust. Contract rates as low as \$125. Call Mark at 1-616-786-2424.

STRAW CHOPPERS: We rebuild and balance. Some exchanges. We stock chopper parts. **ENGINE REBUILDING** our specialty. Auto-Truck-Tractor-Antique-Continental-Kohler-Onan-Wisconsin engine dealer.

69 years of service!
HART'S AUTO PARTS
Cecil, OH 1-419-399-4777

TV ANTENNAS dirt cheap! Save a bundle on Channel Master and Winegard antennas and accessories. For a free catalog, call 1-800-526-9984

Denny's Antenna Sales

WEST MICHIGAN BARN RESTORATION. We repair or replace foundations of all kinds. Roofs, floors, beams, sidewalks and doors. Structural straightening and painting. No Sunday calls. 1-616-924-4151.

MSU SPORTS FANS! Subscribe to Spartan Magazine, your source for Michigan State Sports! 18 issues for only \$32.95. Call 1-800-732-6532. **The Spartan**

20
Wanted to Buy

CASH PAID FOR: Old fishing tackle, rods, reels, spears, gaffs. One piece or entire collection! Also, antique hunting and golf memorabilia. Call 517-427-5881.

OLD GLASS NEGATIVES from late 1800's to early 1900's. Willing to pay top prices for certain negatives. Call Joe at 1-616-945-5536 or leave message.

SOFTWOOD WANTED: Sawlogs and pulpwood. White, Red, Jack, Austrian and Scotch pines. Also, Balsam, Spruce and Hemlock. Especially White Pine sawlogs; standing or roadside. Lower Peninsula only!
Northern Timberlands, Inc. in business over 35 years!
Call 1-517-356-9759 for pricing and specifications.

TRAVERSE CITY: If you wish to buy or sell farm or recreational property in northwest Michigan, we can help. Call Ron McGregor, **Northern Michigan Land Brokers,** 1-616-929-1515, 1-616-943-7709.

WANTED TO BUY: Standing timber of all kinds. Call **R. H. Rehkopf** Big Rapids, Michigan 1-800-725-7861

WANTED, STANDING TIMBER: Buyers of timber of all types. Cash in advance! 1-517-875-4565. ask for Tim. **Maple Rapids Lumber Mill, Inc.** St. Johns, MI

WANTED: 2"-8" used aluminum irrigation tubing. Buy, Sell or Trade! Call **Rain Control** 1-800-339-9350

WANTED: Bag Sewer in good condition. Call 1-616-546-3331. Ask for Jim or John.

WANTED: CHERRY PITTS, 1-616-944-1457.

20
Wanted to Buy

WANTED: BUYING OLDER printed matter. Pre-1960's magazine, sheet music, newspapers, postcards, catalogs, etc. Richard Harris, 715 Luce, Fremont, 49412. 1-616-924-6788. **Save this ad.**

WANTED: Old motorcycles, snowmobile and off road vehicles. 1965 and older. Call JD at 1-517-676-0583

WANTED: WWII GERMAN and US war souvenirs and equipment, uniforms, flags, medals, knives. 1-517-287-5183.

21
Special Events

LET THE SNAKE LADY do your parties, birthday, store openings, fund raisers, company picnics, pet shows. Call Linda Mae 1-810-360-2046 or fax 1-810-539-0773

23
Financing

ABSOLUTE TOP CASH for land contracts. Up to 95¢ on the dollar. Best offer guaranteed. Same day close.
1st National
1-800-879-2324

25
Buildings

HUDSON CONSTRUCTION SERVICES
All types of agricultural, commercial, residential construction. Steel, bricks or sticks. Licensed and insured with certified engineers.
Call 1-616-785-9704.025

Place your ad for 6 months, get phone number in red.
Place your ad for 1 year, get phone number in red and also save \$1.00 per ad.
Call 1-800-968-3129 for details

29
Vehicles

1960 CHEVY PICKUP FOR SALE. Restorable. \$2500, 305, primer. Call Linda Mae 1-810-360-2046 or fax 1-810-539-0773

1985 CHEVROLET TRUCK: C70 cab and chassis, 360 cubic inch V-8, 5/2 speed rear axle, 28,000 GVW, 9000 front, 18,500 rear, good paint. Excellent condition! 10020 rubber, 80%, hydraulic brakes, double framed, 107" CA. \$7995.
Harrington Seed, Inc.
Reese, MI
1-517-868-4750

1985 FORD F-350 pickup. One ton, 6.9L, diesel, 2WD. Loaded! 160,000 miles. Always starts. Great hauler. One owner! Asking \$4000. 1-517-689-4160.

1993 OLDSMOBILE: 4-door, Elite, loaded, with leather and sun roof. \$13,000 or trade. Call 517-531-3265.

WANTED: The old Ford convertible that's back in your woods in your field.
Call 1-517-224-7952.

FARM AUCTION
Having retired from farming the following described machinery and equipment will be sold at a public auction on the farm located 4 mi. East of Kingsley, MI on M-113 then South 2 mi to 8909 Townline Rd. (SE Grand Traverse Co)
Friday, April 12, 1996 10:00 a.m.
Tractors: John Deere 440 DSL tractor; Case 2290 DSL tractor; Case 1175 DSL tractor, Case 730 gas tractor.
Combine & Heads: Gleaner F-2 DSL combine, 1584 hrs. on separator; AC 430 row (black) corn hd. 30" rows; AC 13' grain platform (orange). Grain head wagon.
Truck & Trailers: 1972 GMC Astro Live Tandem Truck Tractor, 318 det, 13 spd, wet kit; 1969 Trailco 30' Tri Axle Steel Dump Trailer, new Hoist. high sides roll tarp; 1974 Trallmobile 40' flatbed semi trailer w/bulk head, tandem axle; 15' 5th wheel tandem trailer, brakes.
Grain Bins & Dryer: GSI 4900 bu. grain bin, w/aeration floor & fan, 7 ring x 21' width; GSI 4500 bu. grain bin w/aeration floor & fan, 6 ring x 21' width; 2000 bu. upright wet bin; AB 180 LP gas grain dryer, 1 ph; 6"x10' bin sweep; Mayrath 8"x62' transport auger PTO; Versatile 8"x55' transport auger PTO.
Machinery: JD 7000 6 row planter, 30" rows, dry fert. monitor cross auger yeller trash cleaners, minimum till coulters, rake attachments; JD 8300 18 hoe grain drill w/packer wheels; JD3200 5x18" on land trailer plow; JD 27 6 row stalk chopper; JD 336 square baler; JD TWA 14' wheel disc; JD F950 15' cultimulcher w/15'spray attachments; IH 18' field cultivator w.rear line leveler; White 285 20' field cultivator; Kenwancee 13' tooth chisel plow trailer type; Yeller 3 pt. 6 row rotary hoe; Wilmar 5 ton DBL spinner fertilizer spreader; Kenwancee 41' transport hay/grain elevator, PTO; Demco 300 gal. trailer sprayer w/30 1/2' boom & Pump; Kuhn 9' hay tedder rake; 8 ass't sized gravity boxes 8 wagon gears, (6 light, 2 heavy duty) 5 8x16' hay flat racks - these pcs sold by discretion of auctioneer.
Farm Related Items: 220 gal. s steel bulk tank for 28%; buzz rig less blade; 1000 gal. fuel tank w/Gasboy elec. pump; 2 1100 gal. poly tanks used for water; Cardinal 14' alum. elevator w/ 3/4 hp motor; 40' semi tarp (new), 2 jewelry wagons.
Consigned by Neighbor: Hesston 5540 4x5 round hay baler, elec. tie; New Holland 469 9' haybine.
Auctioneers Note: This is a good clean line of equipment. Plan on attending this auction, well worth the drive!
Terms: Cash or good check day of sale.
Larry Cornell, Proprietor, 8909 Townline Rd., Kingsley, MI 49649
For more information call 616-263-7353
Sykora Auction Service, Inc.
Jim & Scott Sykora, Auctioneers
Clare, MI 517-386-9694 or 2252 Fax 517-386-2246

FARM AUCTION
Retiring from farming. 3121 Alward Rd., Laingsburg, MI Clinton County (8 miles South of St. Johns via US-27 to Alward Rd., 2 miles East).
Wednesday, April 10, 1996, 10:30 a.m. Partial Listing
Tractors: 1981 JD 4040 D tractor, cab, air, heat, radio, front weights, new tires all around 1 year ago, 18,4-38 clamp on duals, 3131 hours; 1983 JD 750 D tractor will be sold as is, currently leaking water into oil.
Combine, Corn Picker: 1965 JD 45 EB combine, cab, chopper, 10' grain head; NI 325 2-row corn picker with sheller attachment
Hay and Feed Equipment: JD 660 rake with front caster wheel; NH 1010 stackliner; Gehl 1090 haybine; Kuhn rotary hay tedder, PTO; JD 10A hammermill on trailer; JD belt driven corn sheller; JD 38 forage harvester, 2-row corn head, dry hay head; JD 115 chuckwagon with JD gear; Little Giant 40' elevator, PTO; single chain aluminum elevator; MF blower with pipe.
Equipment: JD 1350-1450 4-18" onload hitch plow, trailer type; JD 10' cultipacker; JD 4-14" semi mount plow; JD 825 4-row cultivator, S tine, rolling shields; Killbros 375 gravity boxes on JD gears; 2 flat rack wagons with metal grain sides on JD gears; JD 8200 18-hole grain drill, single disk; 3 pt. blade; JD 270 7' corn cribs, 18' high, 18" diameter snowmobile sled; 3 300 gal. fuel tanks on stands;
Consigned by Neighbor: 1983 Peterbilt tractor, tandem, air ride, 13 speed, 400 Cat engine, sleeper cab; Wilmar 500 fertilizer spreader, tandem; Woods 5'3 pt. rotary mower; truck chassis grain wagon with 4' sides, 200 bu. capacity; 16' 5th wheel single axle flat bed trailer; 16.9/4-30 duals; Deutz Allis KS200 3000 mm rotary hoe rake with 3 pt. hitch; old 9' field cultivator.
Cash or approved check. Announcements made day of sale take precedence over printed matter.
Louis Boron, Proprietor 517-669-9785
Glardon Auction Service, Inc.
6670 E. Juddville Rd.
Corunna, MI 517-743-4142

AFTERNOON AUCTION, TRACTORS, ORCHARD, BAKERY, FARMING EQUIPMENT
12473 Seymour Rd., Montrose, MI, Genesee County (North of Flint via I-75 to M-57 exit 131, 6 miles west to Seymour Rd., 1 mile North) Note: Not a Going out of Business Auction - Just Refining our Operation.
Saturday, April 13, 1996, 1:00 p.m. Partial Listing
Tractors, Backhoe, Fork Lift: 1975 Case 580 CK G backhoe; Int. Farmall M tractor, SN110831, NF 3 pt., suitcase front weights with bracket; Ford 2000 G tractor, WF, military cab, heat, fenders, no 3 pt., used strictly for towing tractors and wagon; MF 135 G tractor, 3 pt., hyd.; Int. Farmall BN tractor, NF; Hyster model H 25 E fork lift, propane.
Special Interest Items: Ditch Witch 2200 ride-on trencher, 48"x8" with front blade and Wisconsin engine, SN5658874; Mits & Merrill chipper, 16" head, powered by Ford 300 industrial engine (can handle up to 8" trees and is on trailer); 1983 Chevy 1-ton step van with aluminum body; 3 pt. underground trickler hose placer, appx. 25 rolls 1/2 poly pipe; hyd. dump 3-yard travel trailer; 12' wooden Christmas tree display racks; Hovey gas powered Christmas tree shaker; Danuser 3 pt. post hole auger, 18" and 24"; Int. Loadstar 1850 D truck with 5th wheel single axle, crank is scored.
Farming, Orchard, and Spraying Equipment: 3-3 pt. 2-row cultivators; Oliver 3 pt. bottomplow; 3 pt. 7' cultipacker; Servis 3 pt. 8' York rake; 7' trailer-style rotary mower; Ford 5' 3 pt. offset rotary; Bush Hog 5' 3 pt. rotary mower; 3 pt. 6' land plane; 3 pt. back blade; Rotovator 3 pt. 60" rototiller; 4-row corn planter; Holland 2-row transplanter with Wisconsin engine, for plugs and strawberries; McCormick Deering ground driven fertilizer spreader; Monitor 1926 sour cherry pitter, 24" cast barrel drum, brass teeth, stainless trough, good, FB Pease commercial apple peeler, 2-cup; Aero 600 gal. stainless catch tank; appx. 70 tripod wooden 1-bushel crates; appx. 1800 wooden 1/2 bushel crates; 220 volt apple box dumper; 4 - 4-bushel produce bins; several double fans for ref. units; 194 Berthoud 18' sprayer 3 boom wheels, John Bean pump; Hardi 50 gal. sprayer with hand gun, B&S engine, on trailer; Hardi orchard sprayers; many miscellaneous parts for sprayers; 2 sprayers with B&S engines; 1000 gal. metal water tank on trailer.
Cash or approved check day of sale. Announcements made day of sale take precedence over printed matter.
Montrose Orchards, Proprietor 810-639-6971
Glardon Auction Service, Inc.
6670 E Juddville Rd
Corunna, MI 517-743-4142

Deadline for next issue is April 5, 1996

Call 1-800-968-3129 to Place Your Classified Ad Today!

or use the coupon below and mail or fax your classified ad to Michigan Farm News

Buy Line/Daily News P.O. Box 6, Stanton, MI 48888 FAX: 1-517-831-5063

Classified Ad Codes

| | | |
|------------------------|----------------------------|-----------------------|
| 1. Farm Machinery | 10. Work Wanted | 20. Wanted To Buy |
| 2. Livestock Equipment | 11. Agricultural Services | 21. Special Events |
| 3. Farm Commodities | 12. Business Services | 22. Recreation |
| 4. Seeds | 13. Business Opportunities | 23. Financing |
| 5. Livestock | 14. Real Estate | 24. Investors Wanted. |
| 6. Poultry | 15. Real Estate Wanted | 25. Building s |
| 7. Dogs and Puppies | 16. Estate Sales | 26. Lawn And Garden |
| 8. Ponies/Horses | 17. Auctions | 27. Announcements |
| 9. Help Wanted | 18. Antiques/Collectibles | 28. To Give Away |
| | 19. General | 29. Vehicles |

Name _____ Phone () _____

Address _____

City _____ State _____ Zip _____

Classified Ad Code Requested _____ Number of Issues _____

Desired Insertion Date(s): _____

Method of Payment

Check \$ _____ (payable to Michigan Farm News Classified)

Visa Card Number _____ Exp. Date _____

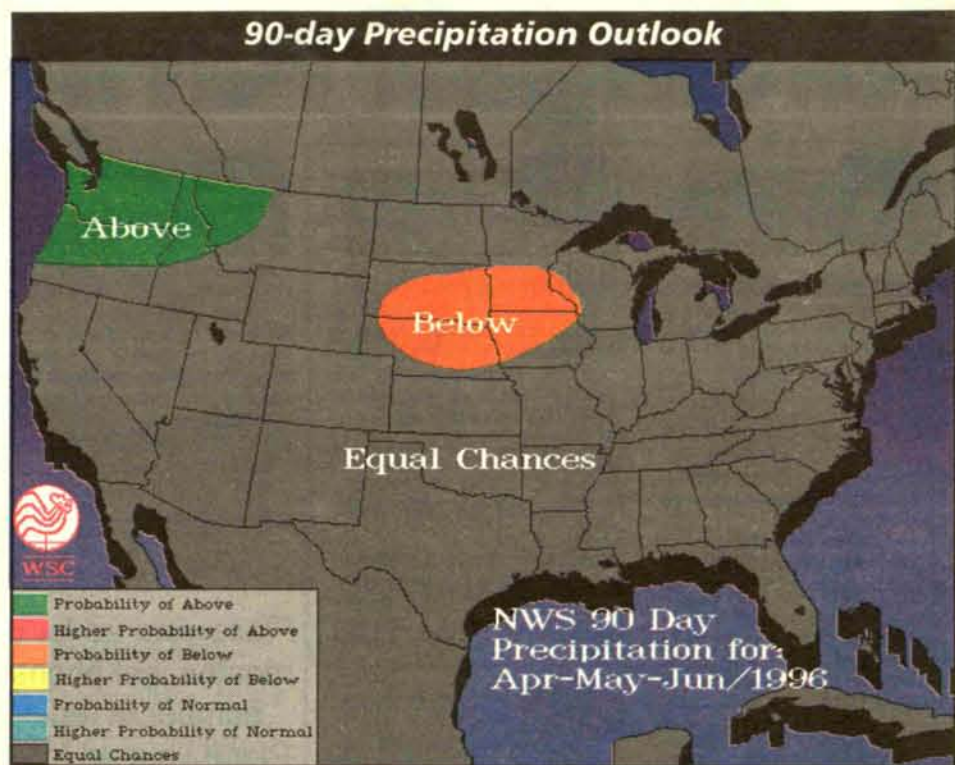
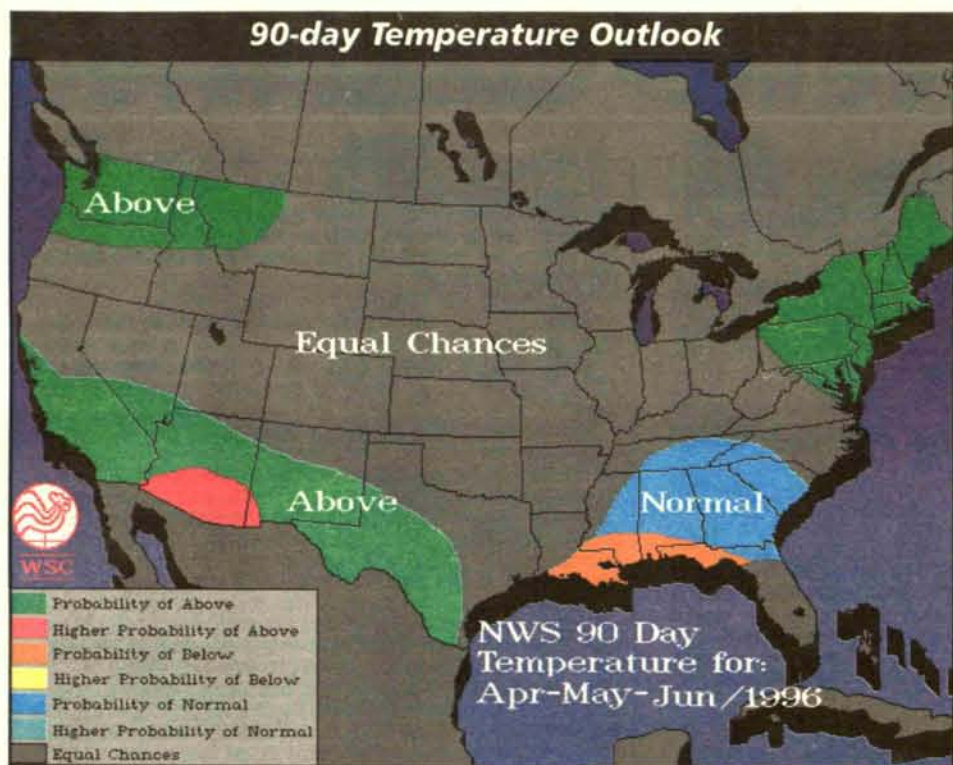
Master Card Number _____ Exp. Date _____

Classified Rates - \$8 for up to 24 words - 30 cents each additional word

Write your ad here, including phone number and area code

| | | | |
|----|----|----|----|
| 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | 32 |
| 33 | 34 | 35 | 36 |

Circulation over 46,000 in State of Michigan.



Weather Outlook

by Dr. Jeff Andresen, agricultural meteorologist, Department of Geography, Michigan State University

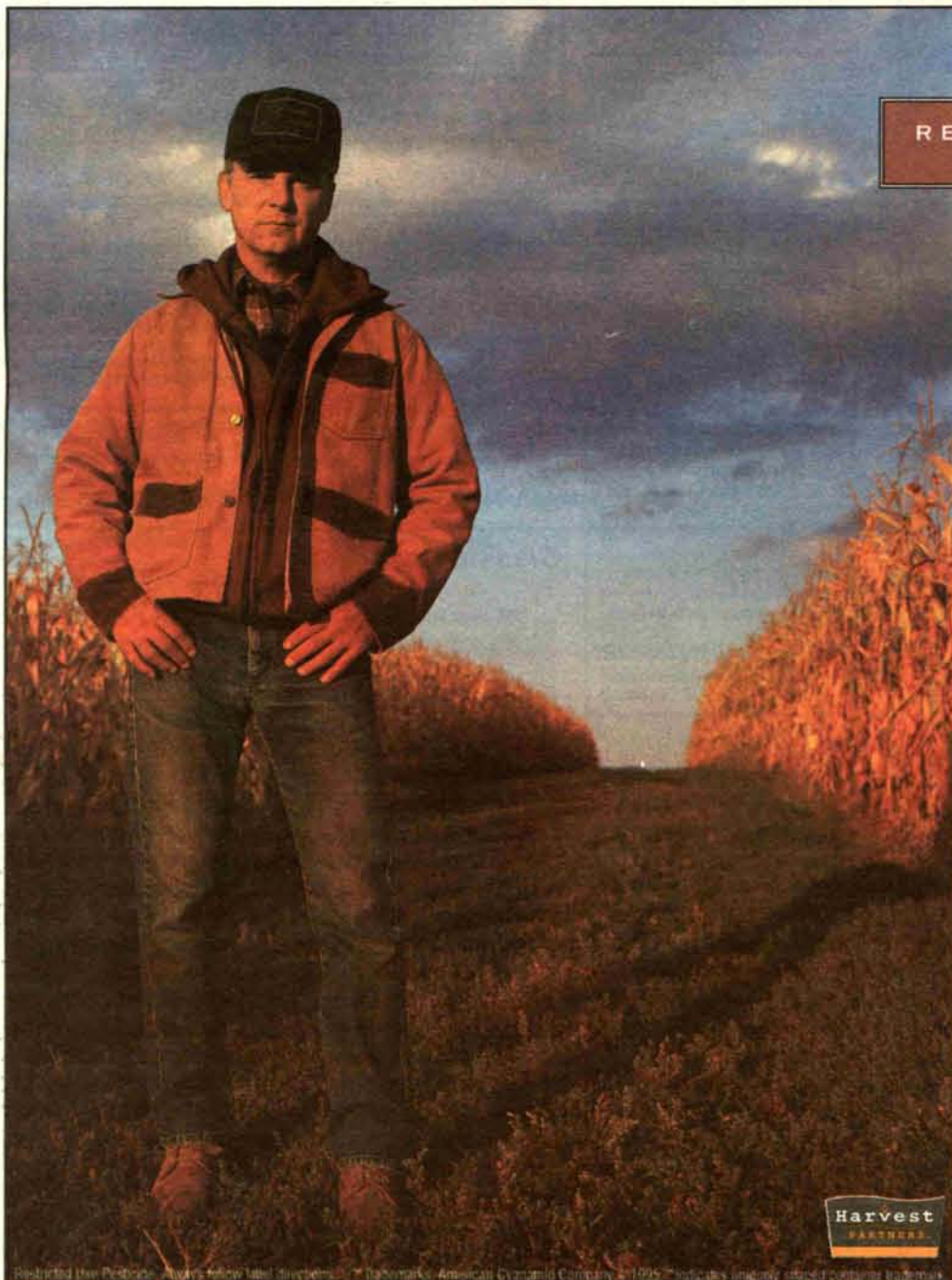
Seasonably changeable weather was the rule across Michigan during early March, with many northern areas of the state experiencing the first extended thaw of the season. Precipita-

tion patterns across the state were similar to those of previous weeks, with normal to above normal totals in lake-enhanced areas and normal to below normal totals elsewhere.

Statistical evidence indicates a link between La Niña conditions (the symmetrically opposite phase of ENSO with El Niño) and colder than

normal conditions in the Upper Midwest. And the development and continuation of a weak to moderate La Niña event during the past few months may be at least partially responsible for the generally colder than normal temperatures experienced here in Michigan since late last fall. While La Niña conditions are expected to continue into the summer months, there are few, if any related weather anomalies in the Midwest during the Spring and Summer seasons. The latest extended outlooks for April and the April through June 90-day period both call for near equal chances for below-, near-, and above-normal temperature and precipitation. As with most long-term outlooks and their relatively low skill and reliability, the best planning strategy is to expect the historical normals, the upcoming spring season being no exception.

By early April, normal maximum temperatures should range from near 50 across southern Lower Michigan to the mid-upper 40s in the northern Lower Peninsula to the low 40s across Upper Michigan. Normal low temperatures at the same time range from the low 30s south to the mid-upper 20s north.



RESPONSIBILITY NO. 19

IF YOU KEEP SPITTING INTO THE WIND, YOU'RE GONNA GET WET.

I PROMISE TO TAKE THE EXTRA TIME TO MAKE SURE THE SAFETY SHIELDS ARE IN PLACE.

I PROMISE TO ACTUALLY REPLACE THOSE BOLTS THAT HAVE BEEN MISSING ON THE GRAIN BIN LADDER FOR 5 YEARS.

I PROMISE TO DO EVERYTHING I CAN TO PUT EVERY SPECK OF INSECTICIDE ON THE INSECTS...NOT ON ME.



Michigan Weather Summary

| 2/16/96 to 3/15/96 | Temperature Observed mean | Dev. from normal | Precipitation Actual (inch) | Normal (inch) |
|--------------------|---------------------------|------------------|-----------------------------|---------------|
| HOUGHTON | 16.8 | -1.3 | 1.76 | 1.56 |
| MARQUETTE | 17.5 | 0.3 | 2.37 | 1.56 |
| ESCANABA | 18.8 | -3.0 | 0.43 | 1.5 |
| SAULT STE. MARIE | 16.9 | -1.5 | 1.29 | 1.57 |
| LAKE CITY | 21.2 | -0.9 | 1.55 | 1.54 |
| PELLSTON | 21.8 | 2.3 | 1.27 | 1.54 |
| TRAVERSE CITY | 24.2 | 0.2 | 1.86 | 1.54 |
| ALPENA | 23.0 | 0.7 | 0.54 | 1.61 |
| HOUGHTON LAKE | 24.0 | 0.8 | 1.13 | 1.61 |
| MUSKEGON | 27.4 | -1.0 | 1.43 | 1.89 |
| VESTABURG | 24.9 | -1.6 | 1.55 | 1.80 |
| BAD AXE | 24.1 | -2.2 | 1.16 | 1.75 |
| SAGINAW | 26.6 | 0.0 | 2.09 | 1.75 |
| GRAND RAPIDS | 27.1 | -1.1 | 1.11 | 1.93 |
| SOUTH BEND | 30.8 | -0.4 | 2.10 | 1.93 |
| COLDWATER | 27.3 | -2.3 | 1.49 | 1.84 |
| LANSING | 27.0 | -0.6 | 1.06 | 1.84 |
| DETROIT | 28.7 | -1.2 | 1.91 | 1.93 |
| FLINT | 27.0 | -0.8 | 1.23 | 1.93 |
| TOLEDO | 30.1 | 0.2 | 1.29 | 1.93 |

Observed totals are accumulated from April 1. Normals are based on district averages.

YOU HAVE A LOT OF RESPONSIBILITIES WHEN YOU RUN A FARM. IN YOUR HASTE TO MEET THEM, SOMETIMES IT'S TEMPTING TO PUT SAFETY LAST. GET IN TOO BIG A HURRY AND YOU CAN FIND YOURSELF KICKING UP A CLOUD OF INSECTICIDE DUST. THAT'S WHY IT'S GOOD TO HAVE A PRODUCT LIKE COUNTER® CR™ SYSTEMIC INSECTICIDE-NEMATICIDE IN THE LOCK'N LOAD® CLOSED HANDLING SYSTEM. ■ THE UNIQUE, CONTROLLED-RELEASE FORMULATION OF CR RESULTS IN LONGER-LASTING PROTECTION, GIVING YOU THE MOST EFFECTIVE INSECTICIDE YOU CAN BUY. THEN LOCK'N LOAD MAKES IT EVEN BETTER BY PUTTING IT IN THE SAFEST SYSTEM. OUR PATENTED LOCK'N LOAD CONTAINER AUTOMATICALLY KEEPS INSECTICIDE DUST AWAY FROM YOU AND PUTS IT WHERE YOU WANT IT...ON YOUR INSECTS. NO BAGS TO BURN. NOTHING TO BURY. NO CLOUDS OF TROUBLE TO STIR UP.

COUNTER® CR™ LOCK'N LOAD®
RESPONSIBLE. LIKE YOU.

