How to remove the without removing

Every summer you've tried to hold your Poa annua. But suddenly it's unusually hot and humid and your fairways and greens start to wilt. Big brown patches crop up. You find your Poa annua infested with disease. You're in trouble. You could lose your fairways and greens.

Don't say it can't happen to you. It can. Because no matter how careful you are, no matter how much you water to avoid wilt, no matter how often and lightly you fertilize to avoid stress, one day your "failure grass" is going to fail. So why gamble and try to hold your Poa annua? Why not get rid of it before it fails?

How do you do it? How do you keep

the course beautiful, the players playing, the Poa annua on the way out, and the desirable grasses on the way in, all at the same time?

WIPING OUT THE POA ANNUA WITHOUT WIPING OUT THE COURSE

It's not as difficult as it sounds. Not if you do the job slowly. Gradually. With a simple, well thought out program.

A program that precisely builds up the control level in your soil to a point that weakens the Poa annua and allows the desirable bent and bluegrass to fill in.

A program that allows you to start with one fairway or green, or as many as you want. A program that is so effective that most

Poa annua the golfers

of your players won't even know that the course is being treated.

A program that even improves play by inhibiting the uneven, unsightly Poa annua seed heads.



A program that will work because it's already worked on many other courses. A program that, in the final analysis,

doesn't have to cost you an arm and a leg.

A SUCCESSFUL TESTED PROGRAM FOR THE GRADUAL REMOVAL OF POA ANNUA

This tested 6-point program is successfully eliminating the Poa annua at Greenbrier, National Cash Register Country Club and hundreds of other courses. It can do the same for you. 1. Drain low areas: Improve drainage of fairways with trenching and vertical slitting. 2. Correct soil acidity: Apply lime to greens or fairways if under a pH of 6.

3. Aerate, thatch or spike the grounds and eliminate phosphorous in your fertilizer program. Make room for new growth. Bring up some soil, get seed against soil. Overseed often.

4. Apply from 4 to 6 pounds of Chip-Cal Granular per 1,000 square feet on fairways, or 2 to 4 pounds on greens. Apply in the spring and fall. Vary application rates according to the percentage of Poa annua, available phosphate, pH and soil type. 5. Achieve Poa annua control: Light sandy soils low in phosphorus require less Chip-Cal to reach control.

6. Maintain control: Use 2 to 4 pounds of Chip-Cal per 1,000 square feet, either in the spring or fall. If Poa annua is dying too fast, use a liquid phosphate as a check valve.

Note: Chip-Cal Granular has been specially formulated for your Poa annua restriction program. It's granulated on a vermiculite base. Which helps give you a more uniform application and a more gradual release when you're building up your soil's control level. Chip-Cal also prevents crabgrass, goose grass, and controls soil insects and chickweed.

14 OTHER CHIPCO TURF PRODUCTS THAT TAKE CARE OF EVERYTHING FROM KNOTWEED TO SNOW MOLD

In addition to Chip-Cal Granular to control Poa annua, we have the most complete line of products to help you with

your other turf problems. For example, in the spring, Chipco Turf Herbicide MCPP controls clover and knotweed on greens and fairways. And in the summer, Chipco Microgreen improves your turf's health and vigor. Used in the fall and winter, Chipco Rho-Mold will prevent unsightly and destructive snow mold.

WANT TO KNOW MORE ABOUT POA ANNUA AND OTHER TURF PROBLEMS? WRITE US

We'll send you back everything you need to know.

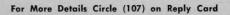
Address: Chipco Turf Products Mgr., Rhodia, Inc., Chipman Division,



Dept. GS, Box 2009, New Brunswick, New Jersey, 08903.

TURF PRODUCTS

CHIP-CAL



the national **EXAMPE** GREENSCAPE

NOTICE OF CANCELLATION OF REMAINING DDT USES has been given by the Environmental Protection Agency. The action, says EPA head William Ruckelshaus, is in compliance with a recent order issued by the U.S. Court of Appeals for the District of Columbia. The order resulted from a 2-1 decision in January. Additionally, from the court decision, EPA has begun a 60-day review to determine whether DDT and "certain uses of 2,4,5-T" should be suspended as an imminent hazard to the public. Notice of cancellation was expected to be sent out by the third week in January. Interested parties then have 30 days to comment. DDT uses can continue during the review period on cancellation. If however, a suspension order should follow as the result of a decision on the "imminent hazard" review, then all interstate shipment must cease.

- INFLATION WILL BE THE MAJOR BUSINESS PROBLEM IN 1971 because of recent labor settlements, believes Carl A. Gerstacker, chairman of the board for Dow Chemical Co. The increased labor cost is inflationary, he says, because it cannot be matched by a productivity increase. Gerstacker predicts physical output of chemicals will rise 7.5% while dollar sales will increase about 9%. He sees "perhaps 4%" average increases in prices.
- LAND MANAGEMENT is almost the total answer to the quantity, quality, and control of the nation's water, according to Louis M. Glymph of USDA's soil and water conservation research division. In the clamor to clean up the nation's waters, he reminds that good conservation practices controlling run-off can prevent pesticide pollution. He estimates that sediments from croplands, unprotected forest soils, overgrazed pastures, stream channels, roads, and development sites in urban areas represent a volume of solids reaching U.S. waters that exceeds total sewage discharge loadings by at least 700 times.
- A CROSSROADS OF PESTICIDE DEVELOPMENT has been reached by the chemical industry, states Dr. David Watson, director of product development for Velsicol Chemical Corporation. Because "costs have soared astronomically and regulatory requirements now surpass those used for drugs for human consumption," a frequent question in company board rooms is "whether to continue in business. Contrary to popular belief, the chemical industry will not always be able to produce new and better pesticides, he asserts. "The plain fact," he says, "is that the pesticide well is running dry," so the industry had better work together to save the materials it now has.
- A SUBTLE CHANGE IN PUBLIC ATTITUDES ON PESTICIDES is seen by Edward K. Hertel, manager of FMC Corporation's Niagara Chemical Division. The real value of pesticides began to receive "more rational attention" this past year, and he believes "charges of under regulation and over regulation will likely diminish further in 1971." Because research and development costs have "increased dramatically," Hertel predicts the rate of new product introductions will decline and that many existing products will remain on the market longer than they might have otherwise.

Scotts presents 4 new ways to feed your sod field.



1. That monster bag with the sling handles. It holds nine acres of Scotts ProTurf fertilizer—which saves you heaps of buying and storing. Very handy. And besides fitting neatly onto the arms of a forklift, it's equipped with a sliding-panel trapdoor . . . but more about that later. First, here's what comes in that monster bag:

2. Scotts ProTurf Starter Fertilizer—if you're just beginning a field of tender seedlings. Available in both the nine-acre monster or standard half-acre bags, it's a lightweight homogeneous product that spreads easily and evenly. And, thanks to Scotts' research-backed balancing of phosphorus/potassium/nitrogen, it feeds your young field a rich, energetic diet. Trionized bonding insures a controlled nutrient diet especially for developing new turf seedlings.

3. Or Scotts ProTurf Sod Field Fertilizer, if your grass is at a later stage. It comes in the big sling bin or the half-acre bags, too. Like ProTurf Starter, it's surface-applied, odorless, and dust-free. Being a Polyform product, it has less bulk and weight — and its controlled release nurtures the seedlings at the time they really need it. As part of Scotts' total ProTurf program, this means you'll have an earlier crop than usual. Not to mention a better product.

A. Now. Back to the sliding trapdoor. Scotts designed it so when the monster bag's hanging there on the forklift, all the forklift operator has to do is lean forward ... pull the sliding panel ... and watch while the fertilizer empties out into a Superspreader. Superspreader has a fully extended wingspan of 28 feet and can handle four thousand pounds of fertilizer (about three and a half monster bags) at one clip. There's a new automatic feed shutoff: when you slow down, the feed slows down; when you stop, it stops. That means no more burnt patches or starved spots when you swing around to start a new row. And—a last beautiful touch—the same worm-gear feeder that provides accurate spreading can be cleaned out afterwards. In five minutes.

A really professional lineup, for really professional sod growers. Because Scotts understands sod. They've put a hundred years of grass-growing knowhow behind every one of these new products . . . years of lab research, greenhouse development, and plot testing. That's the best new product recommendation you can get anywhere.

Want to know more about the new ways Scotts help you feed your sod field? Send us the coupon below ... or call us — collect — in Marysville, Ohio: 513/642-4015. Talk to Paul Florence and he'll give you all the information on the monster bag, ProTurf Starter Fertilizer, ProTurf Sod Field Fertilizer and the 28-foot Superspreader.

(Scotts) ProTu	O. M. Scott & Sons, Marysville, Ohio 43040
I want to know me	are about
	to feed my sod field.
Scotts 4 new ways	
	to feed my sod field.

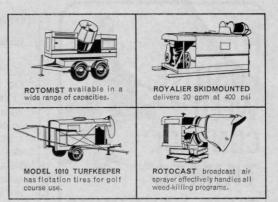
A 72-YEAR-OLD LAW IS JUST NOW CUTTING ITS TEETH. President Nixon has signed an executive order establishing a permit program under provisions of the Federal Refuse Act of 1899 to regulate the discharge of pollutants and other refuse into the navigable waters, or tributaries, of the U.S. The Secretary of the Army, in consultation with the administrator of the Environmental Protection Agency, will have the power to "grant, deny, condition, revoke, or suspend" permits. Water quality standards will be measured in terms of effects on fish and wildlife. Proposed policy, practice and procedure for the permit program was published by the Secretary of the Army in the Federal Register on Dec. 31. Interested parties have 45 days in which to comment.

the national

GREENSBAPE

- FEES WILL BE CHARGED for occupancy and use of designated National Forest Recreation Areas, effective Jan. 1, 1971. The fee is being established by the Chief of the Forest Service, and notices will be posted at each area. Failure to pay the fee can result in a \$100 fine.
- BIOLOGICAL PEST CONTROL PROGRAMS won't be realized until a great deal more in-depth research is accomplished, says USDA geneticist Dr. Angus A. Hanson. The day, may come when a computer center programmed with a variety of ecosystem models can predict the consequences of any given practice. However, the resources "probably will not be available in the near future" to set up such models. Aside from the work and money required and the impossibility of predicting anything with certainty, Dr. Hanson says the biggest obstacle is getting people representing many disciplines to work together as a highly integrated unit.
- ELEVEN NEW U. S. RECORDS were reported in the Cooperative Economic Insect Report for 1970. These included eight species new to the Western Hemisphere—seven in Hawaii and one in New York. There were also 123 new state records reported. States having 5 or more were: Hawaii, 17; Oregon, 10; Utah, 10; California, 9; Pennsylvania, 9; Arizona, 6; Missouri, 6; and Florida, West Virginia and Wisconsin, each 5.
- USDA HAS EXTENDED GYPSY MOTH REGULATED AREAS to 14 new counties in three states. They are: Broome, Chenango, Jefferson and St. Laurence in New York; Chester, Columbia, Dauphin, Delaware, Lancaster, Lebanon, Montour, Northumberland and Sullivan in Pennsylvania; and Cumberland in New Jersey. The entire state of New Jersey is now under regulation. The federal quarantine means that all timber products, woody plants, stone and quarry products and other articles that might be carrying the insect must be inspected and certified free of insects before being moved.
- 129 PLANT PESTS PER DAY WERE STOPPED from entering the U.S. in 1970, reports USDA. The inbound pests, some 47,000, included some of the world's most destructive insects and diseases, capable of damaging millions of dollars worth of U.S. crops, gardens, forests, and ornamentals. Interceptions were up 20% over the 1965-69 average, attributed primarily to increased air travel. About a quarter of million tons of sea and air cargo were cleared in Vietnam alone during the year.

This Rotomist[®] sprayer has the greatest "rate-of-work" capacity ever developed for shade tree work. It is a design that provides a controlled air pattern, all the way to the top of the tallest trees. This means adequate coverage, as well as more efficient use of your chemicals. It means versatility, because the Rotomist pivots 110° vertically, rotates through 360° horizontally. Which means you can put your spray material-either dilute or concentrate-anywhere you want it. Up in trees. Over an embankment. Down, to windrow leaves. And, of course, John Bean makes many Rotomist models to match your requirements. They all mean business.



Spray control is straight-through air



POWER SPRAYING EQUIPMENT JOHN BEAN

DIVISION

For More Details Circle (126) on Reply Card

FOR POSITIVE WEED CONTROL TRIMEC TURF HERBICIDE MAKES THE DIFFERENCE!



Now you can have positive control of hard-to-kill weeds in cool as well as warm temperatures on a variety of 2,4-D resistant weeds.

Trimec turf herbicide is a patented combination of herbicides that display "synergism" and controls hard-to-kill weeds at lower rates than normally needed with the individual herbicides you're now using.

Gordon's Fairway Broadleaf Herbicide is in a class by itself. It contains 2,4-D, MCPP and Dicamba in a patented formulation which controls virtually all broadleaf weed species, while the individual herbicide components do not. It is the patented "synergism" of the formulation that makes the difference.

Call 913/342-8780 today, or write Gordon's about new Trimec Fairway Broadleaf Herbicide and other Gordon turf care products.



LETTERS TO THE EDITOR

Insect and Disease - Not the Same!

I call to your attention a serious error in the December issue. On page 16, a paragraph states: "Diseases ranking after Dutch Elm Disease were cottony maple scale, maple decline, verticillium wilt, canker stain, oak leaf skeletonizer, fire blight, oak kernels, European elm scale and oak chlorosis." I do not argue the importance of these problems, but cottony maple scale, oak leaf skeletonizer and European elm scale are all serious insect problems! I do not know the term "oak kernels," and this may refer to some of the many common insect galls that are caused by insect attacks. I suggest some editing by experts is in order.-HUGH E. THOMPSON, associate professor, Kansas State University.

* * *

I am writing in regard to a very serious error in the article entitled "Municipal Arborists Survey Reveals More Funds for Tree Care" in the December issue. Cottony maple scale, oak leaf skeletonizer and European elm scale are insects and not diseases. Oak kernels, probably referring to oak kermes, is also an insect. —J. C. CARTER, head, Section of Botany and plant Pathology, Illinois Natural History Survey.

EDITOR'S NOTE: Sorry about that. Two things happened. In retyping, a couple of words were left out. The paragraph should have read: "Diseases (and insects) ranking after ..." And our typesetter changed kermes to kernels. We shall enter appropriate marks in the editor's and typesetter's grade books!

Early Success for Minnesotans

We would like to thank you for the fine support we have been receiving from your publication. Since the article in your November issue on the formation of the Minnesota Landscape Maintenance Association, we have been getting mail from all over the country inquiring about our association and offering us assistance and support.

Our membership of 40 consists of almost all the major maintenance firms. Contrary to our expectations, it is the larger firms and not the smaller ones who are coming into the group. We had felt it would be the smaller firms who would have the most to gain.

Our initial fee has been set at \$15 and the yearly dues, \$12. Group insurance is being investigated. We also have begun work on a booklet for public distribution consisting of lawn and gardens tips. — GEORGE LILLI, MLMA president, St. Paul, Minn.



No Faith in Beetle Attractant

I would like to comment on a Page 34 report in your November issue relative to the U.S. Forest Service scientists finding a substance that may be produced artificially to attract the elm bark beetles that spread Dutch Elm Disease. This sort of thing is far from being new, and even if they did find something that attracted the vector beetles, it is unlikely it would be effective enough to have much, if any, impact on the spread of Dutch elm disease.

As of this date, the use of DDT and other hard pesticides are known to have the ability of preventing the elm beetles from feeding on healthy trees, and in my opinion is the only hope we have of saving any of the American elm trees. — WILLIAM D. BUCHANAN, entomologist, Brigham Young University, Provo, Utah.

Editorial Enjoyed

Just a note to let you know how much I enjoyed your excellent editorial in the November issue. — PAUL M. VOYKIN, superintendent, Briarwood Country Club, Deerfield, Ill.

Commends "Laser Attack"

I was glad to see our work "Laser Attack on Aquatic Weeds" so skillfully reported. From telephoned information, someone did a superb job of writing. The information is accurate and well stated. — RICHARD COUCH, chairman, biology department, Athens College, Athens, Ala.

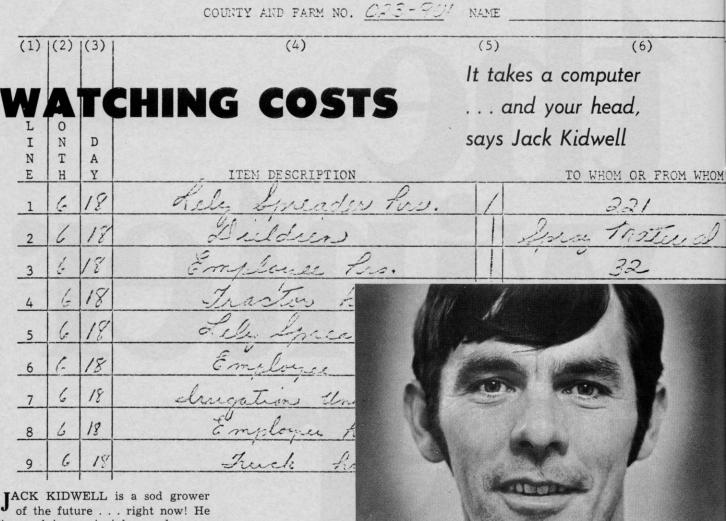


Most effective winter protection at lowest cost, WILT PRUF Anti-Transpirant prevents excess water-loss caused by drying winter winds. You can eliminate burlap windscreens. WILT PRUF saves shrubs, trees and roses all year round . . . from winter kill, summer scald, drought and city air pollution. Combats transplanting shock and extends the safe transplant season, too. Write on your letterhead for 50-page technical manual of applications.



NURSERY SPECIALTY PRODUCTS, INC. 410 Greenwich Ave., Greenwich, Conn. 06830 / (203) 661-5840

MONTHLY REPORT OF



JACK KIDWELL is a sod grower of the future . . . right now! He is applying principles and practices many turf specialists feel may be required of sod growers generally within the decade.

Stack up the scope of your operation against that of Kidwell Turf Farms, Culpeper, Va.:

INTEGRATED SERVICE — Sod production, delivery, and installation; landscape design, construction and maintenance assistance; retail lawn and garden center, supplying both nursery stock and products and equipment.

COMPUTERIZED ACCOUNT-ING, to include periodic analysis of profitability of the various segments of operations.

MULTI-APPROACH MARKET PROMOTION, using radio, newspaper and magazine advertising; direct mail brochures; customer relations literature; personal letter writing; sales representatives; and standardized and published pricing.

PROFESSIONAL ASSOCIATION MEMBERSHIP pertinent to each major segment of the business, plus a close working relationship with the area land-grant universities.

CATEGORIZED WORK FORCE, specially trained for certain jobs.

Kidwell Turf Farms, 450 acres, part of J. L. Kidwell Landscape Corporation, is Virginia's largest supplier of cultivated sod. In 1969, Kidwell Turf harvested and delivered an average of 2,050 sq. yds. of turf per day (6-day week) during the season, Apr. 1 to Dec. 1.

A Decade of Growth

All this growth came in the past 10 years, since 1959, when Jack Kidwell bought a sod cutter on credit to engaged in the pasture sod business.

Of all the factors contributing to the success he has achieved, three stand out: a continuing goal to produce a better product; a relentless and aggressive desire to increase his professional knowledge; and an unwavering objective to operate on sound business principles.

While the pasture sod business was satisfying his reason for quitting as a farm supervisor ("Because I had a family to feed"), there were problems. Pasture sod was hard to handle and, basically, it was a poor product. He continued offering it until 1965; in the meantime watching for the chance to grow his own sod and for related business opportunities.

One was the opening in 1962 of the Green Thumb Garden Center, the first of its kind in Culpeper (about 75 miles southwest of Washington, D.C.). In 1964, the Center's name was changed to the J. L. Kidwell Landscape Corporation.

"This year, we decided to handle Toro and Ryan equipment and to carry a supply of parts," said Kidwell. "We had several reasons, and the move has resulted in some fantastic things.

"With the nearest outlets in Washington, D.C., and Richmond, we needed a closer source for our own operations. But we also put in the service for the pasture sod growers in the area."

Kidwell hopes that when pasture sod growers come in for machinery or parts, they will become better acquainted with cultivated turf and will eventually switch to it. And he hopes improved communications

FARM BUSINESS TRANSACTIONS

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provided by Virginia Polytechnic Institute has been adapted to the Kidwell turf operations. Every employee and piece of equipment is assigned a number. Daily field records are kept on hours worked and on what job. Field reports are posted on the monthly report, a portion of which is shown above. VPI uses this input data to compute costs. Printouts are made quarterly.

will mean better cooperation on matters of mutual benefit.

The real beginning of Kidwell Turf came in 1965 with the purchase of 450 acres along famed Rappahannock River in Fauquier County. Some 200 acres already was established in bluegrass sod.

Of course, that didn't mean he was immediately in business. Buying the land was one financial exercise; the real test coming, however, "in estimating my capital outlay for the next two years and then taking it to a lending institution."

University-Industry Cooperation

About the next thing Kidwell did was to visit the Extension and Agronomy departments at Virginia Polytechnic Institute. The relationship that developed caused Kidwell to state later that "VPI practically fostered Kidwell Turf Farms!"

And it could be added that Kidwell Turf practically fostered the cultivated turf industry in the State of Virginia.

The Virginia Cultivated Turfgrass



AEc - FM 1

27





Association was inaugurated in 1966, with Kidwell a charter member and a two-term president. He helped write the guideline specifications for soil preparation and sodding, an industry first, adopted by the states of Virginia and Maryland. He helped bring about the recognition of a two-state "Certified Turfgrass Sod," labeled, and enforced by the states' departments of agriculture.

"The message that continues to be difficult to get across," Kidwell said, "is that these things were achieved for the benefit of all sod growers in the area and not just for a handful of the biggest ones."

Active in the American Sod Producers Association since its beginning, Kidwell currently is working on national guidelines for soil preparation and sodding that would have ASPA backing. He is the present ASPA treasurer.

Kidwell also is active in the American Landscape Contractors Association. His interest in turf took him in 1969 to Harrogate, England, to an international meeting that resulted in the formation of the International Turfgrass Society.

Twice, the Virginia Cultivated Turfgrass Association annual tours have visited Kidwell Turf, in 1968 and 1969.

Many Have Tred Kidwell Turf

Literally hundreds of thousands of people from all across the nation and around the world have walked on Kidwell turf, for it has been used around the John F. Kennedy gravesite during a five-year contract with Arlington National Cemetery. Kidwell Turf also graces the Governor's Mansion and the City Hall in Richmond, numerous colleges and universities and housing projects.

So well known is Kidwell turf that some construction specifications actually specify, concerning sod quality, "as can be obtained from Kidwell Turf, Culpeper, Va."

Market Promotion

Multi-functional promotion spread the word, much of it created by Chuck Rose, who served as advertising manager until this summer when he joined the staff of a Culpeper bank. The word is carried personally by Kidwell himself and by sales manager Powell O'Bannon, who travels up to 80,000 miles per year.

"We're going to use our airplane more in sales effort this coming year," Kidwell said.

These are samples of the market promotion and customer information literature. As examples of how Kidwell Turf gets business: A subscription to Dodge Reports keeps the company posted on construction activity. Letters are then written to the architect, the project owner/developer, to the bidders, and low bidder.

"But of primary importance is the followup by a sales representative," Kidwell stressed.

It is in this communication that Kidwell can promise the quality and fulfill the specifications he helped bring about. From the experience of contract cancellations in earlier years, Kidwell had concluded that there was a "definite need for a better product and for specifications for the product. Many times when we bid, the product was good, but because of the lack of proper specifications, the contract called for a delivery time when the product was not so good."

With the letters to potential customers, Kidwell could send a portfolio of information — a history of Kidwell Turf, how Kidwell cultivated turf is grown, turf mixtures offered, the guideline specifications for sod, information listing the advantages of sodding over seeding, instructions for taking care of a newly sodded lawn, delivery costs, and price lists.

Advertising is used in area magazines, newspapers and on radio.

Product Mixtures Sold

Only mixtures, four of them, are offered. They are: No. 1-50% Merion and 50% South Dakota Certified; No. 2-60% Merion and 40% S.D. Certified; No. 3-45% Merion, 45% S.D. Certified and 10% Pennlawn Fescue; and No. 4-90% K-31 Tall Fescue, 5% Merion, and 5% S.D. Certified.

"We're changing this year to of-



Mrs. Christine Estep mans the computer corner, compiling the records that go to VPI. She also handles ordering, billing, secretarial work, and bookkeeping.

fering a 30% Merion, 30% Fylking, 30% South Dakota Certified, and 10% Pennlawn fescue. Eventually, this will replace the first three mixtures."

Retail prices range from 80ϕ for fewer than 100 sq. yds. to 68ϕ for orders 10,000 and over. Shipping charges are listed by five zones radiating out from Culpeper and run from \$60 to \$180.

"About 75% of production was installed by us in 1969, said Kidwell. At mid-point of 1970, the figure had dropped to about 50%.

Mechanization and Training

Kidwell believes in a work force in which "each man is trained to do

