

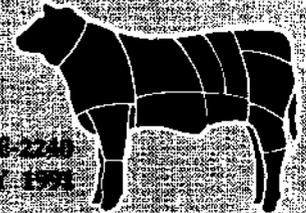
MSU Extension Publication Archive

Archive copy of publication, do not use for current recommendations. Up-to-date information about many topics can be obtained from your local Extension office.

Managing Newly Purchased Yearling Bulls
Michigan State University Extension Service
Harlan D. Ritchie, Dennis Banks, Davis R. Hawkins, Department of Animal Science;
Charles Gibson, Large Animal Clinical Sciences
Issued February 1991
4 pages

The PDF file was provided courtesy of the Michigan State University Library

Scroll down to view the publication.



Managing Newly Purchased Yearling Bulls

Harlan Ritchie, Dennis Banks and David Hawkins
Department of Animal Science

Charles Gibson
Department of Large Animal Clinical Sciences

Introduction

The high cost of producing 2-year-old bulls has led most seedstock producers to sell bulls at one year of age instead of two. As a result, the supply of 2-year-olds is diminishing. Because they still have a significant amount of growth and development ahead of them, yearling bulls require a higher level of care and management than their older counterparts. This is especially true of today's bulls, who possess considerably more genetic potential for growth than their ancestors.

Nutritional Management

Energy Requirements

Because yearling bulls continue to grow rapidly, their energy requirements are still relatively high. Whether they were fed on the farm or in a test station, most young bulls

have been fed to gain from 2.5 to 4.0 lb per day from weaning to one year of age. After coming off test, and until they are turned out with females, bulls should continue to gain at least 2.0 lb per day.

Table 1 summarizes maximum expected dry matter intakes, TDN and crude protein requirements and diets that allow yearling bulls of varying weights to gain 2.0 lb per day. Basically, these diets consist of either a full-feed of a 35% concentrate-65% hay diet or a full-feed of high quality corn silage plus protein supplement. Bulls grazing a grass paddock should receive 8 to 13 lb of grain per day, similar to those on dry hay.

Fat vs. Thin Bulls

If bulls are overly fat, their dietary energy may have to be set below the levels indicated in Table 1. However,

fat bulls should not be let down too rapidly or their performance during breeding may be impaired. Conversely, feed thin bulls a higher level of energy than shown in Table 1. Ideally, yearling bulls should be purchased 1 to 3 months before they are used so there is adequate time to prepare them for the rigors of breeding season. At turn-out time, a yearling bull should ideally exhibit a body condition score of 6 to 7 on a 9-point scale.

Protein Requirement

By the time they are past a year of age, the protein requirement of bulls has declined to no more than 10 to 11% of the dietary dry matter. This can be met by adding 1 lb of protein supplement per day to the grain portion of the diet. If high quality hay is fed, the additional protein supple-

ment is not needed. Because corn silage contains only 8% crude protein, it is necessary to supplement a full-feed of corn silage with additional protein.

Mineral Requirements

The minimum calcium and phosphorus requirement of the yearling bull is approximately 0.3% and 0.2% of the dietary dry matter, respectively. In addition, trace mineral requirements should be met by including these elements in the form of a free-choice mineral mix such as the following: 40% dicalcium phosphate, 20% limestone, 30% trace mineral salt and 10% Selenium 90 premix.

Vitamin Requirements

Any diet that includes high quality green forages should provide enough vitamin A to meet the yearling bull's requirement for this nutrient. If forages are weathered and/or of low quality, an intramuscular injection of 3 million IU of vitamin A is advisable. Injectable vitamin A will maintain adequate liver stores for over 100 days.

Breeding

Soundness Exam

If the yearling bull was purchased without a breeding soundness exam (BSE), one should be conducted. A BSE includes a scrotal circumference measurement, a semen exam and a physical exam. When compared to the cost of using a sterile or sub-bull, the money invested in a BSE is well spent.

Foot Care

A skeletally sound, correct yearling bull should not require any foot care. Occasionally, however, excessive hoof growth may require a foot trimming. If trimming is needed, it should be done well in advance of the breeding season (3 to 6 weeks) so the bull can recover from any soreness the trimming may have caused.

Housing

After purchase, and before breeding season, the yearling bull should not be locked up in tight quarters. Ideally, he should have access to an outside lot or field that gives him an opportunity to exercise and harden up.

Immunizations

The newly purchased bull should be vaccinated against IBR, BVD, PI3, hemophilus somnus, leptospirosis, and vibriosis. It is also a good idea to immunize him with a 7-way clostridial bacterin. The total cost of these vaccines is minor when compared to the cost of the diseases. Several of these vaccines are available in a combined product. If the bull has never been immunized, a second round of booster shots is recommended 3 weeks after the first round.

Breeding Season

Management

Age and Size

Assuming all other factors are in good order (breeding soundness exam, body condition score, skeletal soundness, etc.), the newly purchased bull should be at least 13 months old and weigh a minimum of 1,100 lb before being turned out for the first time. The older and larger he is, the better his chances are of coming through his first breeding season without experiencing problems.

Number of Females

Setting down absolute guidelines for cow-to-bull ratio is difficult because there are several variables that have an impact on this number. Examples are age, size, condition, sex drive, size of breeding pastures, type of terrain, climate, and length of breeding season. As a rough guideline, however, the working range is approximately 10 to 25 females per yearling bull during a 45 to 60 day breeding season.

Length of Breeding Season

A maximum of 45 to 60 days is an ideal length of breeding season for yearling bulls. Ninety days is an absolute maximum. One method of saving wear and tear on a yearling is to turn him out after an older bull has been with the herd for the first one or two heat cycles.

Observation

Try to observe the yearling bull closely to make certain he is detecting heat and breeding the cows. Also, keep an eye on his condition. If he is getting too thin and rundown, he may need resting.

Running Bulls Together

Research shows that when bulls are run together in a breeding pasture, they should be as close to the same size and age as possible. Larger, stronger, older bulls tend to dominate smaller, younger bulls and may prevent them from performing satisfactorily.

After the First Breeding Season

Feeding

It is not uncommon for yearling bulls to lose from 100 to 300 lb during their first breeding season. In addition to gaining this weight back during a 9-month rest period, the bull must gain approximately 400 lb so he weighs 75% of his mature weight by the time he is 2 years old. For example, if a bull's potential mature weight is 2,200 lb, he should weigh about 1,650 lb at 2 years. If he weighed 1,250 lb at turn-out as a yearling and lost 150 lb during breeding season, he would need to gain

about 2.0 lb per day during the 9-month rest period. In order to gain 2.0 lb per day, coming 2-year-old bulls will need to receive about 13 lb of grain plus a full-feed of hay or a full-feed of corn silage plus 1 lb of protein supplement. A word of caution: do not try to bring the bull back too fast with too much grain because of the risk of foundering him.

Health Management

In the fall, after the first breeding season, treat the bull for internal and external parasites. The following spring, when he is 2 years old, deworm him again and give him annual booster vaccinations against the diseases listed earlier.

Table 1. Feeding yearling bulls of varying weights to gain approximately 2.0 lbs. per day^a

Body wt., lb	Maximum expected dry matter intake lb	Daily requirement		Diets to meet TDN & CP requirement
		TDN lb	CP lb	
1,000	22.1	14	2.00	8 lb corn + 16.5 lb hay; or 1 lb supp. + 57 lb corn silage
1,100	23.6	15	2.05	8 lb corn + 18.5 lb hay; or 1 lb supp. + 62 lb corn silage
1,200	25.0	16	2.10	9 lb corn + 19.0 lb hay; or 1 lb supp. + 66 lb corn silage
1,300	26.2	17	2.15	10 lb corn + 19.5 lb hay; or 1 lb supp. + 70 lb corn silage
1,400	27.7	18	2.20	11 lb corn + 20.0 lb hay; or 1 lb supp. + 75 lb corn silage
1,500	29.0	19	2.25	12 lb corn + 20.5 lb hay; or 1 lb supp. + 79 lb corn silage
1,600	30.4	20	2.30	13 lb corn + 21.0 lb hay; or 1 lb supp. + 83 lb corn silage

^a Adapted from NRC (1984) requirements



MSU is an affirmative-action equal-opportunity institution. Cooperative Extension Service programs are open to all without regard to race, color, national origin, sex or handicap.

Issued in furtherance of Cooperative Extension work in agriculture and home economics, acts of May 8, and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Michael J. Tate, Interim Director, Cooperative Extension Service. Michigan State University, E. Lansing, MI 48824.

This bulletin becomes public property upon publication and may be reprinted verbatim with credit to MSU. Reprinting cannot be used to endorse or advertise a commercial product or company.



printed on recycled paper

New-2.5M-TCM-SP-Price 25 cents, single copy free to Michigan residents. File 19.1 (Livestock-Beef).