

# Choosing and managing young bulls

G.R. White, W.A. Zollinger, and G. Colyer

Over time, bulls provide 90% of the genetic change in most beef herds. A producer should carefully plan the selection and subsequent management of young bulls. Purchasing young bull calves has become an economic reality in the beef industry.

Older bulls require a larger investment for the breeder of seed stock because of the extended time involved in the feed and care of 2-year-old bulls.

Because of these impacts, the current trend in Oregon is to buy weanling or yearling bulls and use them as soon as possible. A producer needs to provide extra management for proper growth and development. This initial management of young bulls will impact on calf crop percentages and sire longevity. Any management plan should include selection criteria, facilities, nutrition, and health concerns.

The breeding ability of bulls usually is at its peak about 36 months of age, and it declines after 5 or 6 years of age. An extra calf crop can be sired by using bulls as yearlings.

However, if you're a new owner, it's to your advantage to grow out young bulls in a satisfactory manner. The need for proper growth and development still exists and continues after the first breeding season.

Younger bulls usually cost less and have less invested in their development. Since older bulls are often carriers of the organism trichomoniasis, replacement with young bulls is the best available management decision to control the spread of this disease.

A breeder will have more young bulls available than 2-year-olds, which gives more opportunities to select the better performance bulls. Most breeders prefer selling young bulls, to avoid the added costs of another year's feed and management.

The implications of purchasing young bulls are twofold:

1. the buyer must ensure adequate development of the young bulls, and
2. selection of superior genetics should be better because the high-performance 2-year-olds will have been sold the previous year.

However, the performance records of younger bulls may not be as complete as those on older bulls. With young calves, it's a good idea to select more bulls than you need to avoid the risk of individual(s) that don't develop as you expected.

Before you select an individual bull, determine which breed or breeds will be best for your cow herd. Base your choice of breeds on a long-range plan that you develop by matching breed strengths to production goals. Make individual bull comparisons within breed. This will really show you the need to differentiate between individual performance and breed characteristics.

Your next decision will be, which herds will provide the required genetics through bulls? Base your decision on both the herd genetic background and the breeder's reputation. Finally, make your selections among available calves.

## Selecting young herd bulls

Since fewer performance tests are available for young calves, we know less about their genetics for growth than we do about older bulls; and the buyer is more at risk when purchasing younger bulls. In many cases, 2-year-old bulls are those that didn't sell the previous year; as a group, they're lower-quality animals.

---

This revision was prepared by G.R. (Randy) White, Extension agent (livestock), Jackson County, and William A. Zollinger, Extension beef specialist, Oregon State University; and Guy Colyer, Hereford producer, Bruneau, Idaho. The original edition of this publication was prepared by W. Dean Frischknecht, Extension animal science specialist emeritus, Oregon State University.



### **Expected Progeny Differences (EPD's)**

The best tool available to evaluate the breeding value of a bull is Expected Progeny Differences (EPD's). See EC 1345 for more details on EPD's. Most breeders can obtain this information through their breed associations.

If you want EPD's to be useful, you must first determine your production goals—that is, increased weaning or yearling weights, increased maternal milk, or increased calving ease. Then your selection should emphasize those traits most related to your breeding goals.

Choose bulls based on their expected ability to improve a particular area of production. Therefore, it's your responsibility to match the bull calves you select to your cow breeding objectives.

Breeders should have the opportunity to collect growth data on yearling bulls through a test station, on ranch test, or other programs. However, weaned bulls won't have this data available. Consequently, the accuracy of EPD's on young bulls is relatively low and indicates that the value of the EPD might change as other records are added in the calculation.

Conversely, younger bulls have progeny a year earlier, and the producer can evaluate performance much sooner.

Although you should evaluate EPD's on young bulls with caution, you can use EPD's to group potential sires, then select an individual(s) from the group of bulls on visual evaluation. EPD's are used to compare bulls within the breed and aren't intended to compare bulls between breeds.

Select herd sires partially on the basis of individual performance. This information is helpful when selecting bull calves if available. Most breeders will have actual weaning weights adjusted to 205 days of age and/or yearling weights.

Adjusted weights give a useful comparative value for ranking calves within a similar age group. Younger calves may have a higher adjustment, yet they can still be rather small. It's an advantage for the bull calf to have been born early in the calving season and to have the desired size for his age.

Bull calves of the British breeds (such as Hereford and Angus) should weigh over 550 lb (noncreep fed) at 205 days of age; calves of the larger Continental breeds (such as Simmental and Charolais) usually weigh more than 600 lb.

When you buy bull calves, it may be a good idea to select a few more than you need—some may not develop as anticipated. You can select even young calves for structural soundness. Look for calves that stand correct on their feet and legs.

Calves should be neither too straight-legged nor have too much set (angle) to their hock. An extreme either way could shorten the productive life of a bull.

Calves should also have a muscle structure that allows them to move freely and easily. Check eyes to make sure calves can see clearly—this can affect the amount of traveling that bulls do to breed cows.

Most bull calves have two normal testicles, but it's a wise practice to check each calf. Most physical abnormalities are readily visible. A thorough breeding soundness exam on each potential purchase is recommended.

### **Handle as a test group**

Bulls purchased as yearlings are usually ranked within the herd or test group according to average daily gain or weight per day of age. Likewise, you can most easily evaluate genetic differences in growth potential if you handle weaner bulls in contemporary groups.

Bulls challenged with high-energy rations, over a suitable period of time (120 days or more), will develop body composition differences. Thus, you can evaluate additional information on genetic potential if you handle weaner bulls as a group in their new location.

Feed your bulls a suitable growing ration and give all bulls an equal opportunity to eat. Then you can weigh them as yearlings and rank them according to performance.

Don't take final weight (to determine adjusted 365-day weight) before bulls are 330 days of age, or after 400 days. Weigh bulls with a normal fill.

## **Facilities**

When bulls are mixed, the resulting fighting can be detrimental. Buying and raising young bulls as a group versus buying older bulls from various breeders can reduce fighting and associated injuries. While it would be best to place young bulls in separate breeding pastures from older bulls, it's recognized that most producers have limited breeding pastures.

When you develop breeding plans that include different pastures for different groups, separate the bulls based on age to ensure good breeding response. If older bulls are going to run with younger bulls, pen them together before the season to allow time for the social interaction that always occurs.

Commercial producers who buy bull calves or yearlings need equipment and suitable facilities for their continued development. A large, well-drained lot that gives opportunity for exercise is desirable.

Exercise over rough or rocky ground will help the animals avoid the foot problems that

sometimes occur when bulls have been fed heavily to get into sale condition.

Locating feed areas away from water sources will promote movement of bulls and encourage exercise. Raising bull calves on the type of terrain that forces travel will help condition them for breeding cows.

Shelter or housing is advisable where bull calves are confined, and the winters are severe or exceedingly wet. An open-sided, pole-type shed is desirable, and a partially surfaced lot is helpful if mud is a problem. A loafing shed should provide 25 to 30 ft<sup>2</sup> per calf. A completely surfaced lot should provide 50 ft<sup>2</sup> per animal, and a partially surfaced lot should allow about 150 ft<sup>2</sup> per head.

Feeders should provide 24 to 30 inches of bunk space per head if all animals eat at the same time. Horned bulls require more bunk space than polled bulls. If self-feeders are used, it's helpful to place the feeder near the fence line so you can fill it without entering the lot.

Young bulls need access to a plentiful supply of water. Freeze-proof watering facilities are a help. Too little water can cause slow growth and may result in formation of urinary calculi (stones) or other health problems.

If more than 30 bull calves are to be fed, it's helpful to divide them into two groups. It's also a good idea to separate polled from horned calves.

## Nutritional considerations

Probably the most common mistake made in purchasing young bulls is the failure to provide an adequate diet to continue growth and development. Often bulls are delivered, turned out with other bulls, and left to "rough it" until breeding time. Thus, bull development is delayed; sexual maturity is not achieved; and the resulting calf crop is decreased.

The first step in providing adequate nutrition is determining the desired level of performance. Typically, young bulls have 160 days to grow from weaning to yearling age. Because of the growth potential of our current beef population, yearling bulls are often heavier than 1,000 lb.

Therefore, daily gains of 2.5 to 3.0 lb are needed in young bulls. High-energy diets (those with grain) are needed to attain these performance levels.

Rations should include concentrates fed at about 1% of body weight for the bulls. That is, 600-lb calves can easily consume 6 lb of grain along with hay or silage fed free choice. This will help promote rapid growth without excessive fattening. As the bulls increase in size, the amount of grain should increase to reflect the 1%

of body weight unless it's obvious that they need more high-energy feed.

Bulls should also follow similar nutritional diets for the approximate 120 days from yearling age until breeding time. All bulls should be gaining weight and some condition during this period.

A young bull will use body stores of energy and may loose over 100 lb during the breeding season. It's best if these come from energy stored as fat (condition) rather than muscle tissue since the bull is still growing. Conversely, excess condition lowers the bull's fertility and libido and should be avoided.

A review of the nutritional requirements of beef cattle will show that rapidly growing young bulls need a 13 to 14% crude protein diet with 65 to 70% total digestible nutrients. As bulls approach 10 to 12 months of age, the protein can be reduced to 10%.

The manager needs to provide salt and a mineral mix. A mixture that has given good results contains equal parts ground limestone, dicalcium phosphate, and trace-mineralized salt.

Table 1 shows two examples of young bull growing rations that can be self-fed.

Yearling bulls should be well-grown, but not fat. Reduce the energy content of a ration if bulls are getting too fat. Fat bulls may fatigue rapidly, contributing to fewer cows conceiving.

For a yearling bull to be used successfully, he should have reached puberty 3 to 4 months before breeding time. The age of a bull at puberty depends on several interrelated factors, but size or weight is probably the controlling factor.

Table 1.—Two examples of growing rations for young bulls that can be self-fed

Ingredient	Pounds
<b>Ration 1: Self-fed with alfalfa or grass fed free choice</b>	
Coarse ground or rolled oats	50.0
Molasses dried beet pulp	20.0
Wheat bran	15.0
Coarse ground or rolled barley	5.0
Coarse ground or rolled corn	5.0
Soybean oil meal	2.5
Linseed oil meal	2.5
	<hr/> 100.0
<b>Ration 2: Complete ration</b>	
Ground ear corn (rarely available in the NW)	35
Ground or rolled oats	15
Cottonseed meal	10
Wheat bran	5
Molasses	5
Cottonseed hulls	20
Chopped alfalfa hay	10
	<hr/> 100

The production of semen by a young bull largely depends on his overall growth as well as the development of his testicles and the reproductive tract. There's a positive correlation between size of testicles and volume of semen produced as well as sperm quality.

## The health program

Bulls bought as weaners or yearlings have time to adjust to any environmental problems particular to the new ranch. Buying bulls at a young age gives the new owner the opportunity of including the new animals in the overall herd-health program. The breeder or seller should indicate what vaccinations have already been given.

Most bull calves will have had calfhooch shots for blackleg and malignant edema. Booster shots for these diseases are necessary and usually are given in a preconditioning program before weaning. Most preweaning health programs include protection against clostridial and other diseases associated with feedlots.

In addition, there should be a program for the control of both internal and external parasites. If you have questions, ask your veterinarian about recommended health practices for your area.

## Summary

Buying bull calves can be a sound practice if you select them properly, and if you use EPD's, performance data, and visual appraisal. After you make your selection, provide proper management and development. This includes herd health practices, good nutrition, and an optimal environment to ensure a successful program.

Proper development of young bulls after purchase can have a positive impact on herd fertility. Low fertility in the bull battery can mean fewer calves; thus, a producer needs to ensure proper nutrition and care for young bulls after purchase.

## For further reading

Pirelli, Gene, and William A. Zollinger, *Weaning Management for Calves*, Oregon State University Extension Service Circular 1371 (Corvallis, 1991). 50¢

Zollinger, William A., *Using National Sire Summaries to Improve Selection Skills*, Oregon State University Extension Service Circular 1345 (Corvallis, 1990). 50¢

These publications (and the one you're holding, EC 1035, *Choosing and Managing Young Bulls*, 25¢) are available from:

Publications Orders  
Agricultural Communications  
Oregon State University  
Administrative Services A422  
Corvallis, OR 97331-2119

**Shipping and handling:** For orders up to \$2.50, include 25¢. For orders between \$2.50 and \$100, include 15%. For orders of \$100 or more, or for 100 copies or more, call Agricultural Communications (503-737-2513) for a quote on reduced shipping and handling rates.

---

Extension Service, Oregon State University, Corvallis, O.E. Smith, director. This publication was produced and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914. Extension work is a cooperative program of Oregon State University, the U.S. Department of Agriculture, and Oregon counties.

Oregon State University Extension Service offers educational programs, activities, and materials—without regard to race, color, national origin, sex, age, or disability—as required by Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and Section 504 of the Rehabilitation Act of 1973. Oregon State University Extension Service is an Equal Opportunity Employer.

---

