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What Are Production Records Worth?

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High-producing cows and bulls are necessary for a profitable purebred or commercial beef cow herd operation. Selecting replacement heifers, cows, and bulls that have the inherited ability for high production, and culling cows because of low production is the best way to build a good, economical herd.

This publication is meant for commercial and purebred breeders and emphasizes the importance of:

a. differences within a herd
b. knowing each animal's production
c. keeping and using written records
d. measuring each important trait

Large Differences Within Herd

In any herd, you can find large differences in the production of different cows even when the cows are bred to the same bull. A cow's appearance is not an accurate indication of her production. As an example, the two cows pictured below from a midwestern cow herd appear to be of about the same conformation. In fact, both of these cows received the same visual score (82) in an official classification by the American Angus Association. The average classification of the herd was 81.9.

These cows were neither the highest nor the lowest-producing cows in the herd. The average weaning weight and quality grade of this herd in 1965 were, respectively, 420 pounds and average to high choice. The calves did not receive creep feed.

Both cows were sired by the same bull and are five years of age. For the past three years, each cow has been bred to the

Cow A (left) and Cow B (right) look similar, were sired by the same bull, are the same age, and were raised and maintained on the same farm; but have quite different production records.
Table 1. Average production of cows over a three-year period

<table>
<thead>
<tr>
<th>Item</th>
<th>Cow A</th>
<th>Cow B</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average 205-day weight (lbs.)</td>
<td>435</td>
<td>303</td>
<td>132</td>
</tr>
<tr>
<td>Average quality grade</td>
<td>Av. prime</td>
<td>Low choice</td>
<td>1 1/3 grade</td>
</tr>
<tr>
<td>Average value per pound</td>
<td>$ .27</td>
<td>$ .24</td>
<td>$ .03</td>
</tr>
<tr>
<td>Average value per calf</td>
<td>117.45</td>
<td>72.72</td>
<td>44.73</td>
</tr>
</tbody>
</table>

same bull and has been fed and managed in the same way.

Although there is much similarity in the breeding, management, and appearance of these cows, there is a real difference in the weights and quality grades of their calves. Table 1 presents a summary of their production records for three consecutive years.

For each of the three years, the calves from cows A and B were born about the same time of year. Weights of the calves were adjusted to a standard age of 205 days and for sex of calf and age of dam.

Over a three-year period, Cow A produced 396 pounds more weaned calf than Cow B. The calves from Cow A were also valued at a higher price per pound. This additional weight and grade was worth a total of about $134.19 over the three-year period. This difference in producing ability can easily be the difference between profit and loss on a given cow.

There is no question as to which of these cows should be culled. Also, heifer or bull calves from Cow B should not be sold for breeding purposes. Calves from Cow B are not likely to improve the weaning weight or grade of this herd. Selling Cow B or her offspring for breeding purposes will not build a good reputation for a breeder.

These differences in weaning weight and grade can be found in almost any cow herd.

Large differences in post-weaning gain, feed efficiency, carcass cutability, and carcass quality also exist between cows and bulls maintained or raised within any herd.

Each Animal's Production Must Be Known

Each cow or bull in the herd affects the profit or loss of the cow herd operation. Therefore, the commercial, and especially the purebred breeder, must keep records of the exact calf production of each cow and bull in his herd.

Often, we remember only the cows that produce a highly superior calf. Many times a cow is kept that produces a superior calf only once in six or seven years and a relatively poor calf the other five or six years. It is practically impossible for a breeder to remember the exact past performance of each animal in his herd; yet, he must have this information if he is to improve his herd or breed.

Keep Written Records

Do not rely on memory to evaluate a cow herd. Written records should be kept with each animal's weaning and yearling weight and grade permanently recorded. Without written records, a breeder may neglect culling a cow that is far below average in her production. He may also cull a cow that is below average in appearance but far superior in production.
Keeping performance records is neither difficult nor time consuming. Most breed associations and the Indiana Cooperative Extension Service have official programs. These record-keeping services reduce the cattlemen’s time and cost.

Why Adjust Weights?

Weights of different calves, and, therefore, the production of cows and bulls can be compared more accurately after adjustment for age of calf, age of dam, and sex of calf. Such adjustment allows accurate comparison of calves of different age or sex or from cows of different ages.

Adjustment factors, based on large numbers of cattle, are available. Performance testing programs include adjustment of weights for these "environmental" factors.

Yearling Weight is Not Enough

Knowing only yearling weights on cattle is not enough. An animal may be from a line of breeding that does not produce heavy weaning weights but does have high post-weaning gains. Commercial breeders sell weaning weight and grade. When buying a bull or evaluating his herd, the breeder should use both 205-day and 365-day weight and grade.

Selecting Replacement Heifers

In order to continue improving the productivity of a herd, the breeder must select the best replacement heifers possible. Selected heifers should be fast-gaining, have proper conformation and quality, and be from cows with good production records.

Bull Important Too

As pointed out above, individual cows differ greatly in their producing ability, but the herd bull is the other half of the herd! It is not unusual for calves from one bull to average 40 pounds and two-thirds of a feeder grade higher at weaning than calves from another bull bred to the other one-half of the same cow herd during the same season. This is a difference in value per calf of about $18. If the better-producing bull were used in a 30-cow herd for 2 years, the calves would sell for a total of $1080 ($18 x 2 years x 30 calves) more than if the poor-producing bull had been used.

A good indication of a bull’s breeding potential is the performance of the bull when he was maturing. Select a performance-tested bull that had high weaning and yearling weights and conformation grades in comparison with the other animals which you are selecting.

What are Records Worth?

As shown above, records of performance and production on purebred or commercial herds can be a real help to breeders in improving their herds and breeds. To be helpful, complete records have to be collected on each animal in the herd and they must be used correctly.
Managing Tall Fescue for the Beef Cow Herd

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Tall fescue is well-adapted to the many different soil and climatic conditions of Indiana. It will provide feed under weather and fertility conditions where many other grasses will fail. Fescue sod resists damage from trampling and prevents erosion. Unfortunately, its acceptability is usually lower than orchardgrass, brome, bluegrass or timothy. However, if properly managed, fescue can successfully be used for much of the hay and pasture for a beef cow herd.

Establishment

The establishment of a fescue seeding depends on the local soil and moisture conditions. However, there are some general guidelines to be considered:

(1) To prevent spotted grazing, do not include other grasses in fescue seedings.
(2) Spring seedings are favored by good moisture conditions, but annual weeds and early summer droughts cause considerable hazard.
(3) Fall seedings made in early-seeded wheat are generally most successful. If extreme drought conditions prevail in the fall, seed the fescue in wheat during January or February in Southern Indiana.
(4) Fifteen pounds of certified seed, high in germination, and seeded with one-half to three-fourths pound of Ladino clover, is generally sufficient. If field-run cleaned seed is used, rates as high as 20 to 25 pounds are more desirable because of the differences in inert matter and germination percentages.
(5) Red clover (8 to 10 pounds/acre) may be used with fescue. It will furnish excellent-quality hay and pasture for two years while the sod is becoming established.
(6) Fifteen pounds of Korean lespedeza may be seeded in the mixture.
(7) Alfalfa may be seeded at the rate of 8 to 10 pounds per acre on well-drained, high-fertility soils. However, alfalfa does not usually persist too long under grazing conditions.

Maintaining a good stand

Once a fescue seeding is established, close grazing is a good management practice. Fescue is more acceptable and generally has more nutritive value if it is grazed closely or clipped. Although fescue will withstand heavy grazing for short periods, long periods of extremely heavy grazing may damage the stand. Rotational, rather than continuous grazing, combined with a good fertility program, is important in maintaining fescue stands and legumes that may be present in the fescue sods.

Beef cows and calves grazing fescue pasture in the spring in Southern Indiana.
A predominantly fescue sod requires about 40 to 50 pounds of nitrogen annually to maintain a healthy root system and a vigorous sod. Additional nitrogen will be needed for top production. Many farmers apply a second application of 50 pounds of nitrogen per year; one application following the first cutting; and the second in late summer.

**Legumes in Fescue**

The best way to furnish nitrogen to fescue is to maintain legumes in the stand. Lespedeza, alfalfa, or Ladino clover give the best results, depending on the area of the state. Legumes in the fescue sod also increase the feeding value of the hay or pasture.

**Fertility**

Two keys to legume livability in fescue sods are: (1) maintaining adequate levels of potash and phosphate (2) using good grazing management. The best guide to any fertility program is a soil test. In the absence of soil tests, an annual top-dressing of 60 pounds of phosphate and 80 pounds of potash is recommended if legumes are present. Phosphate is usually more efficient if larger amounts are applied every third year rather than one-third of this amount applied each year. Therefore, one-hundred-eighty pounds of phosphate applied every third year is more efficient than 60 pounds each year. Potash is more efficient if applied each year.

**Spring and Summer Management**

Fescue is most acceptable during April, May, June, October and November and its use should be maximized during these months.

If the fescue field has not been used for winter grazing, it may be pastured as early as mid-April in Southern Indiana. In April, May and June, beef cows or feeder cattle grazing fescue will have performance similar to cattle grazing orchardgrass or other grasses. Heavy grazing during this period will allow harvest of other forages for hay or silage. Hay meadows will then have time for enough regrowth so that they may be used during July, August and September when intake of fescue is extremely low.

July, August and September are the most critical months for a spring-calving herd. Brood cows should have access to high-quality feed prior to selling the calf crop. Therefore, enough meadow regrowth or other high-quality forages should be made available to the herd through these months. Orchardgrass with alfalfa, red clover or lespedeza will give good results in the late summer.

A fall-calving herd may use fescue regrowth after the calves are weaned in June since the nutritional needs of the beef cow are lower when a calf is not being suckled.

**Round bales for summer grazing** are a low-labor method of leveling out the forage supply and of furnishing summer quality feed for a spring or fall calving beef cow herd. Orchardgrass has been used in this manner with good success at the Southern Indiana Forage Farm where fescue is used heavily during April, May and June. In May, orchardgrass that has not previously been grazed is cut for hay. It is baled with string and in extremely compact round medium- to heavy-weight bales and dropped in the field. During July, August and September, the orchardgrass round bales and regrowth are strip-grazed by the cow herd.

Cut orchardgrass early in May for the best hay. Harvesting at this time usually gives a much higher quality forage than grazing fields that have not been cut for hay or grazed prior to July or August.

**Fall and Winter Management**

Fescue is the best adapted grass for winter grazing in Indiana. It will produce top-growth when soil temperatures are as low as 40°F and is not completely dormant at 34°F.
Fescue sod should have at least 60 days of rest in late summer or fall before winter grazing. This rest period is necessary to provide top-growth and a firm sod which will withstand trampling during the winter. The July, August, September period of low fescue acceptability is an excellent time for this rest period.

Fall-calving herds may be grazed on fescue regrowth until the calves are about 2 months old. Then the cows should be moved to a pasture with round fescue bales plus regrowth or supplemented with quality hay or silage.

Seed Production—may be a part of the operation by harvesting a seed crop and baling the aftermath for winter feed. A fair quality forage is produced, especially if the field contains some legumes. Yields of 300 to 500 pounds of clean seed are not uncommon. However, shattering may reduce yields as much as 50 percent. Therefore, the combine operator must use extreme caution. If a seed crop is to be combined, the field should not be grazed from April to June, when the seed is usually harvested.

Combined fescue seed may contain much green material. Since the green material causes heating and a loss of germination, the seed should be cleaned before storage.

Heavy applications of nitrogen will stimulate seed yields, and the highest seed yields are obtained if the nitrogen is applied during January or February. Nitrogen applications made too late in the spring promote excessive leaf growth at the expense of seed formation. A second application of nitrogen is desirable after the seed crop and residues are removed.

In-Field-Stored Round Bales is a system which has several advantages: (a) saves labor in handling and storing bales and in feeding the cow herd, (b) saves hauling manure, (c) gives the herd clean surroundings for calving and suckling, and (d) reduces equipment investment.

Either the aftermath remaining after seed harvest, regrowth after grazing, or the unpastured first growth in the season may be baled. Fescue usually makes satisfactory hay if harvested soon after the heads emerge from the boot.

In-field-stored bales should be medium-to heavy-weight, extremely compact and baled using string. If the hay is properly baled, very little of the bale becomes weathered, and the round shape sheds rain and melting snow. This procedure is recommended only for forages containing a high percent of grass.

Most producers use in-field-stored round bales from December to the first of April; gleaning hay meadows or corn stalk fields until December.

Beef cows and calves grazing in-field-stored round fescue bales and regrowth during a Southern Indiana winter.

Two disadvantages of this system are: (1) the cows may eat more than they actually need, and (2) the cows may waste too much hay. Both of these disadvantages may be overcome by: (a) picking up bales out of the field and hauling to the cows, or (b) strip-grazing only portions of the field as needed to feed the cows.

Strip-grazing gives about 60 percent more days of pasture compared to when the cows have free access to the entire supply.
of round bales and regrowth. At the Southern Indiana Forage Farm, cows on the strip-grazed part of a field used about 35 pounds of hay per head daily, whereas cows that had free access used about 55 pounds. Performance of the two groups of cows were similar with respect to their calves' weaning weights.

Protein supplements are believed by some producers to be needed by their cows when winter grazing fescue regrowth and baled aftermath. Whether or not extra protein is needed depends on how much regrowth has accumulated, when the cows calve during winter, and the condition of the cows in the fall.

Production and health of the cows can usually be increased by providing 1 pound of Purdue Supplement A (32% protein) or three-fourths pound of soybean oil meal (44% protein) per head daily when the cows start to calve. If this is mid-January, protein supplement may be fed until April when the herd starts to graze new pastures; a period of about 75 days.

Fall-calving cows usually should have a protein supplement from November to the time the herd starts grazing new grass in the spring.

Protein supplements can be fed every second day if desired, without ill effects on the cow or her production. This would mean feeding 2 pounds of protein supplement every second day instead of 1 pound per head daily. Protein blocks can also be used but are usually not as economical as other supplements.

Good-quality alfalfa hay (about 4 pounds per head daily) given to cows on fescue winter pasture is a good native source of protein.

Vitamin A supplements providing about 30,000 I. U. of Vitamin A per head daily should be included with the protein supplement. If the cows calve in January or February, and protein supplement is not fed during the fall months, it is a good practice to inject 3 to 5 million I. U. of Vitamin A in October. Injectable Vitamin A is relatively inexpensive and will be effective for 3 to 4 months. Some producers are injecting their cows with Vitamin A when they wean their calves, and are combining pregnancy tests, performance tests, and vaccination programs all into one operation. These practices are all important in making a profit from a beef cow herd!

Mineral supplementation should be available for cows on any pasture, at any time of the year. They should have free access to two separate mineral boxes containing: (a) a mixture of two parts of steamed bonemeal or dicalcium phosphate to one part of trace-mineralized salt, and (b) loose trace-mineralized salt.

Fescue poisoning, also called fescue foot, has occasionally been noted in Indiana. Grazing animals may become lame, and unless the animals are moved to other types of pasture, the lameness may become so acute that they may not recover. If the animals are given other pasture when the first symptoms are noted, they usually become normal again.

Fescue foot may occur under a wide range of conditions. However, it has been most frequently noticed after fescue has been allowed to accumulate without harvesting for one or more years and where the animals are in poor nutritional condition.

Cull closely when feed supply is short, and this can be done most accurately by using pregnancy tests and production records. Do not feed native forages in short supply or purchased feed to a non-pregnant cow or one which does not produce a heavy, quality calf.