

Dwarfism

In Beef Cattle

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The study of dwarfism in beef cattle was started in 1948. It was found that dwarf calves vary in development with age just as do normal calves.

The characteristics which generally identify the dwarf at birth or at a very young age are: (1) a protrusion of the eyes accompanied by a glassy stare, (2) a continuous protrusion of the tip of the

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EDITOR'S NOTE: This is a report of but one major project in livestock research. Other reports, of equal importance, will appear in a subsequent issue.

tongue, (3) apparent muscular weakness, (4) incoordinated movement, and (5) proportionally short legs. The length of forecannon has proved to be the most accurate method of identifying the living dwarf calf at birth.

Genetic studies were made to learn if dwarfism in beef cattle was inherited or if it was caused by faulty nutrition. In these genetic studies, cows that had previously dropped dwarf calves were mated to bulls that had sired such calves. In addition, dwarf bulls were used on normal and dwarf cows.

Carried By Genes

The results of the breeding studies proved that dwarfism is a breeding problem. It is not the result of faulty nutrition and cannot be eliminated by changing the ration or using feed supplement.

The dwarf condition is due to a simple recessive gene. This means that normal appearing animals can carry and pass on the dwarf gene.

If a carrier bull is mated to a group of carrier cows it can be expected that about 25 per cent of the calves will be normal appearing and will not carry the dwarf gene, 50 per cent will appear normal but carry the gene, and 25 per cent of the calves will be dwarfs. A dwarf calf can be produced only if both the sire and dam carry the recessive gene for dwarfism. This gene is introduced and maintained in the breeding herd by the normal appearing carriers. Unless proper precautions are taken, the incidence of dwarfism is likely to increase appreciably in many of the herds.

Measures which can be used by the breeder to control the dwarf problem in his herd include:

1. Elimination of proven carriers.
2. Elimination of progeny of proven carriers.
3. Progeny testing of prospective sires.
4. Screening bulls prior to progeny test.
5. Establishment of a dwarf-free nucleus herd.

Bulls that have sired dwarf calves should be sold for slaughter. The proven carrier cows can be retained as a special herd for conducting progeny tests of prospective herd sires. If the prospective sire is mated to the carrier cows and produces 16 or more normal calves he is considered a non-carrier. However, if he sires even a single dwarf he can be immediately classified as a dwarf carrier and should be marketed for slaughter. Females can also be used in the test herd if they have a proven carrier for sire or dam. This type of test, however, requires a relatively large number of females to prove the prospective sire.

Don't Buy A Carrier Sire!

It is most worth-while to screen bull prospects carefully before the progeny test. Study the pedigrees to eliminate bulls of known carrier parentage. Look for bull prospects from progeny tested bulls or from established dwarf-free lines. If cows are available that come from a well defined line which has not produced dwarfs, use them to establish a dwarf-free nucleus herd.

This study of dwarfism in beef cattle has pointed out the importance of complete and accurate herd records. If a breeder finds any undesirable characteristics appearing in his herd he can check his records to determine the necessary action needed to eliminate the characteristic from his herd.

BELOW ARE shown dwarf calf "D" and normal calf "N" at 15 and 90 days of age.

