Dwarfism

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tend to disappear as animals grow older

Research on the X-ray technique was started at the Iowa Agricultural Experiment Station in cooperation with USDA Most active work on this method is now underway at Iowa and, jointly with USDA, at the Nebraska, Oklahoma, and Tennessee stations Eight other stations are cooperating on this and other techniques. Studies are supported by special Federal appropriations, private industry, and individuals

X-ray test results were recently pooled by cooperators Of 186 known carriers, 167 or 90 per cent were found to have abnormal vertebrae Of several thousand calves thought to be dwarf-gene free, 80 per cent were found to have normal vertebrae. Abnormal vertebrae in the other 20 per cent varied with the lines of breeding. So far, it has been impossible to distinguish between the mild abnormalities unrelated to dwarfism and some of those thought to be due to the dwarf gene

Another limitation is the showing of borderline abnormalities. In addition, it's sometimes hard to get clear pictures, and equipment is expensive Research is helping a great deal in obtaining better pictures

Some breeders, veterinarians, and colleges are using X-rays on a trial basis Most present equipment is satisfactory for use on calves

Experienced, careful breeders can utilize this technique effectively for early screening of their calves Breeding tests should be used as a further screen for animals with normal X ray pictures if they have close relatives that produced dwarfs Thus it appears that the X-ray technique is likely to be a tool for herd improvement for individual breeders rather than a basis for merchandising cattle

The insulin-tolerance test, though still in the experimental stage, shows promise for identifying carriers It's thought that blood cell counts of carriers differ characteristically from those of normal animals when both are given insulin Accuracy and limitations of this test haven't yet been measured under a wide variety of conditions

An experimental technique developed some years ago to find carriers in mature Hereford bulls by using a profilometer hasn't proved as accurate as expected This instruments detects the slight forehead bulge thought to mark normal looking animals as dwarf-gene carriers Although this method alone doesn't seem to positively identify carriers, it can provide valuable clues

Easiest way to get rid of dwarfism would be to recognize carriers by their appearance Head, body, legs, and tail size are all being studied to determine possible relationship to dwarfism Spinal-fluid pressure and blood tests and various other approaches are being checked for any such relationship Perhaps combinations of these methods — rather than any one alone—will tell us which animals are carriers

Most small breeders can't afford the space and expense of maintaining a tester cow herd to get rid of dwarfism For the time being, they can avoid or minimize it by carefully examining the blood lines of breeding stock they plan to buy for signs of dwarfism The best bet is to buy cattle from breeders who are making special efforts to produce dwarf free pedigree lines isn't infallible. But it has the great advantage of being quick and inexpensive and is being used throughout the industry

Losses from dwarfism probably average ½ to 1 per cent in our beef cattle—have run 10 to 12 per cent or even higher in some herds Such losses are important enough to deserve the attention of breeders who want to better their herds and make them more profitable.

Dwarfism in beef cattle is inherited It's found in all breeds, and all breeds have one or more types — most of them recessive in inheritance Some breeds may be free or almost free of the snorter dwarf gene, but it's hard to get accurate information on this Snorter dwarfs seem to have increased recently This may be because animals carrying the dwarf gene have physical characteristics breeders like and select for

Many researchers believe different genes are responsible for other types of dwarfism But it's not definitely known if this is so or whether they are merely modifications of the same type

Dwarfs are produced only if both parents are carrier Chance may operate to make percentage of dwarfs high or low in a given year, especially in small herds

Theoretically, mating carriers to carriers produces one fourth normal offspring one-half carriers, one-fourth dwarfs Mating carriers to noncarriers never produces dwarfs but half the offspring are carriers, the rest normal Experimental matings of snorter dwarfs with snorter dwarfs have always produced dwarfs.

Bulls siring only normal calves when bred to 12 to 16 known carrier cows are free of the dwarf gene in 97 to 99 per cent of the cases This is a costly, time consuming way to find clean bulls. But it's done in some herds.

ASC Committees Given Reserve Fund Authority

On Jan 29 the USDA announced that state ASC Committees have been authorized to determine the method to be followed in each state in making allocations of available Acreage Reserve funds to individual farmers when it is necessary to put a limit on participation.

Drouth Effects Show in Unusual Way in Celery Crop, Growers Find

(Continued from page 1)

in the soil for most crops, boron requirements for celery are high and the plant will show very definite signs when the level falls low

The three most common signs are checking on the pedicle, a brown stan on the inside of the pedicle and a series of brown dashes on the vascular bundles of the pedicle

No effective control or material to combat the boron deficiency has yet been developed, the experts reported Even massive use of borax as a fertilizer material have failed to produce good results

One reason might be that the boron requirement of celery vary considerably from variety to variety and even with climate and soil conditions Penn State is now running tests to find a variety more tolerant to boron deficiency

The search for a pure strain of the old Houser variety of celery continues Dr Pollack of PSU obtained six old seed packets supposedly containing Houser seeds Of these only one strain bolted He made seed of this variety available to celery growers for their field trials during the next growing season

Also on display were selections of the H-46 variety developed by Funk Three selections were grown this year in the county and it is believed that in the next couple of years the seed will be available for commercial distribution

The experts were asked for the current fertilizer recommendations for celery They said that a soil pH of 6 2 to 6 8 should be maintained For fertilizer, 1,500 to 2,000 pounds of 5-10-10 should be used with a possible side dressing of nitrogen

They said that for best results, a soil sample should be taken of the field to be planted and this soil tested at Penn State The results of such a test form a better basis for a fertilizer recommendation

Representing Penn State at the meeting were Dr Robert Fletcher, vegetable gardening specialist Dr B L Pollack, vegetable researcher, and Dr. George Taylor, nutrition specialist

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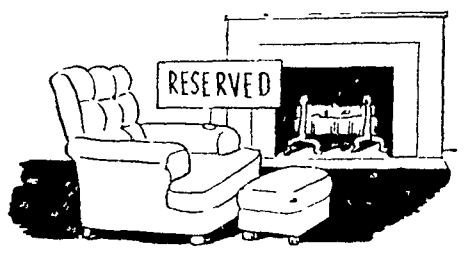

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