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Generally true. The use of lime on a lenitrogen to the soil, and in perhaps a majority of fields nitrogen is the limiting element of plant food. I have never yet showing of the most worthy of the known a farmer to fail to profit by the calves for prizes. This display was liberal use of lime for this purpose or to encourage the growth of grass. Some farmers may be more fortunate in a way than is James Brown: they may not

is the road to rich land," is a saying that is

have to break up their rotations as he has done. The farmer who can find increased grain acreage without breaking into his rotation or lessening the proportion of the legume crops to the grain and other crops should certainly find that way and keep in it. The farmer who must spoil his rotation in whole or in part should follow Brown's example of planting legumes wherever they can be used as catch or supplecover crops if he is in the southern part of the country. These are the essential features of any effort to increase grain production without impairing soil fertility. Four things are pointed out as more than usually important because of the

First, the most careful saving of the farm manures and of farm wastes that will add to the fertility of the soil.

Second, a similar saving of all organic matter, with a lessened use of fire in the

Third, a more liberal use of phosphate rock as a supplement to the manure and to commercial fertilizers, but not as a substi-

Fourth, a largely increased use of lime, preferably to promote the growth of legume crops and of grass.

## Full-Bloods vs. Grades

An impressive object lesson in comparative profits in feeding grade and full-blood calves is had in the outcome of two boys' and girls' calf club contests in central Illinois. There is a little story of local rivalry that enters into these contests and for this reason the community in which they occurred

is not indicated. A certain bank decided upon a contest and invested in 50 registered Shorthorn heifer calves. Upon their receipt they were appraised by a Shorthorn breeder and were distributed, by drawing lots among the boys and girls who formed the club. The conditions of the contest obligated the banker to advertise a public sale and dispose of the calves in that way at the close of the season the last week in October. Each boy and girl was to take care of his or her calf and grow it out during the season and was to receive the margin between the purchase price and the selling price for profit: or in the event the animal sold for less than the original price, they were to make up the loss.

A rival bank also decided on a contest with similar conditions, but selected grade calves for the purpose. It happened that this bank held its sale a week before the date announced for the full-blood heifers and the event was regarded as a real success, the grade calves selling for an average of \$65 per head.

The registered calves cost the boys and girls an average of \$117 a head, and when sold in the sale averaged \$235 per head—an average gross profit of \$118 for every boy and girl in the contest. In other words, the margin of profit received by the boys and girls who fed the registered heifers was almost double the actual selling price of the grade heifers in the other contest. An interesting fact is that there was not one animal sold among the full-bloods that did not make a profit for its owner, and in one or two cases the profit reached \$300.

But there is another and more important fact that comes out of this contest, and that is that it has resulted in the starting of a number of fullblood herds in that community. inspiration received through the various of this experience and its conhas started a goodly number and girls along the road of pro-

registered Shorthorns. a advertising force this contest n tremendously effective in atattention to this community ide territory. The sale of these and calves brought an attendance 2,000 people and a number of life.

bankers from over the state were on hand to watch the outcome and study gume crop means the addition of more the effects of this enterprising undertaking.

A feature of the contest was the made on the main street and competent. judges made the ratings. Beautiful rosettes were provided by the American Shorthorn Breeders' Association for the

prizewinners. These calf club contests are becoming popular and are proving a useful and definite force in the growing of better standards of livestock.

## Selecting a Sound Horse

The soundness of a horse should be as mentary crops, and of growing winter much the first consideration of a buyer as it should be that of a breeder. This is a sound maxim, and it has been followed out by the issue of some very useful hints bearing on it by the Bureau of Animal Industry. In these it is pointed out that if the animal is not sufficiently sound to withstand the use for which he is intended, the proper time to learn of this is before the purchase, and the selection should be based primarily on a thorough systematic examination, and this examination should be again based on a clear knowledge of desirable and undesirable qualities.

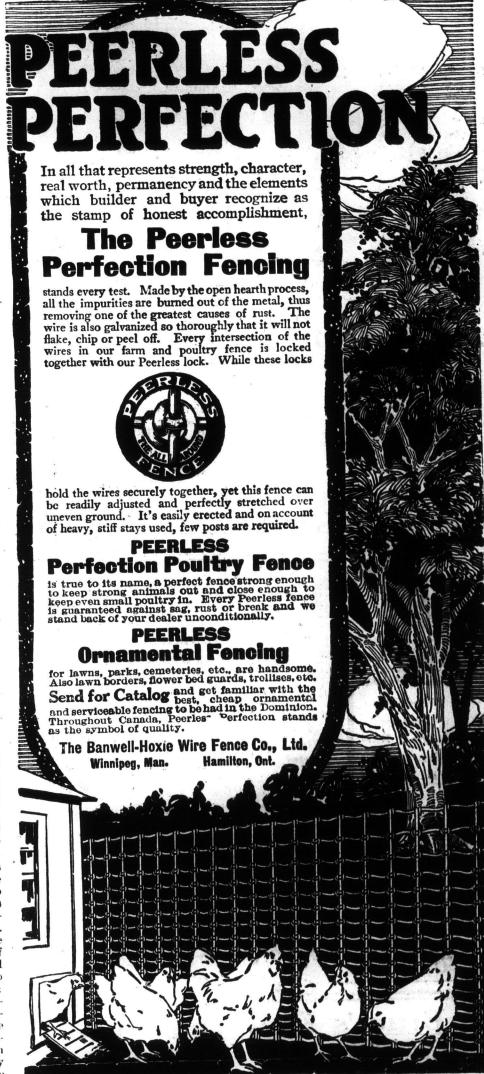
The advice given may be summarized somewhat as we give it here. Not only the presence of unsoundness, but also condition or seriousness of the unthe soundness, should be carefully noted. Temporary unfitness should be distinguished from permanent unsoundness. When these two matters are considered it will easily be seen that a hurried examination is likely to prove a disappointment. In the examination itself quite a number of points must be kept well in mind. Blemishes, vice, faulty conformation, unsoundness, and general characteristics must all be observed and Common blemishes are scars noted. from old wounds, poll evil, scratches, shoe boils, and small ruptures.

Common vices are halter pulling, cribbing, kicking, stall walking, weaving, and biting. Common faults of conformation are straight shoulders, crooked, weak, or improperly set legs, ewe neck, long, weak back and drooping croup. Common unsoundnesses are splints, thoroughpin, spavin, curb, extreme fistula, ringbone, side bones, extreme atrophy of muscles, contracted tendons, and broken wind. General characteristics include fleshing, temperament, quality, color and age. After all these matters have been looked for the final selection must be made by weighing the good qualities against the defects.

The mere enumeration of these points to be observed shows how great must be the knowledge of a horse to anyone who would be perfect as a purchaser. This is well brought out in the general conclusions arrived at on the whole subject. In this we are told that "experience gained by examining large numbers of horses will aid in quickening the eye and judgment, thereby making it possible to perceive readily any unusual condition: out it should be remembered that a hurried examination is likely to prove a disappointment, consequently plenty of time should be taken in making the examination, because time is much cheaper than money tied up in an unsatisfactory In some cases nine days are horse. allowed by law to the purchaser in which to learn the serious forms of unsoundness or vice in a horse, so that it would seem fair to allow a day at least for a fair trial when practicable. If possible, get a history of the animal from the person having it for sale. So many defects may be covered up by such unfair methods as drugging that it is a good plan to make purchases only from those with good reputations."-Live Stock Journal.

## Gardening for Sports By George Ethelbert Walsh

The remarkable achievements of Luther Burbank in improving common wild plants and changing the characteristics of those which have been cultivated for years have stimulated interest in one of he most fascinating features of country





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