

thus indicating the likelihood of lessening yields from the successive planting of small seed. Furthermore, large seed derived from plants grown from small seed outclassed small seed which was the offspring of plants grown from large seed. The meaning of this cloudy sentence is a triumph of individuality over heredity. Large seed produced a larger number of more thrifty plants, more green and more dry pods, and more beans both in terms of number and of weight. The plants grown from small seed set fewer pods by 25 per cent.

The weights and sizes of plants compared at different stages of growth show that the continuous and permanent advantage exists in favor of large seed. Plants grown from large seed show more leaves of greater surface area, and hence have greater assimilative powers. Germination usually has a smaller percentage in small seed, and the yield of the crop is liable to be lower on account of many skips and scanty plant population. In intensive cultivation where every foot of ground must be made to produce its most, one cannot be too particular in the care of seed used. When left until the land is fit to work many farmers will not take the time to select the seed with proper precautions, and the parentage of the seed is not taken into consideration. Yet all of these things go a long way in producing the best yields. Winter is the proper time to prepare the seed for spring sowing, and sieves and machines should all be set in such a way that the poor and weak seeds will be discarded, giving preference to the large seed of good parentage.

THE DAIRY.

Red-and-White Holsteins.

Editor "The Farmer's Advocate":

I know two breeders and have heard of some others who think it is possible for pure-bred Holstein-Friesian cattle to produce red and white offspring. To make such a claim is to set at naught the color standards that the animals must line up to for eligibility for registration. These standards say the animals must be black and white. No color other than black and white has any claim, under any circumstances whatever, to purity in this breed of cattle.

The question naturally arises, How comes the apparent phenomenal incidents? There are two clues to the question, both of which I know to be true, by recent investigations as well as personal experience and observation. First, comes the numerous scrub animals running about, going just where they wish, occasionally, closely followed by their owners who are aware of the damage they may do. Upon entering my field about a month ago a considerable distance from the house I saw a scrub animal being taken out of my pure-bred herd; one of which he bred. If I had been a few minutes later I never would have known the circumstance, and another year might have registered an animal not eligible, which might at some future time have produced red spots and all parties directly interested might claim purity for it.

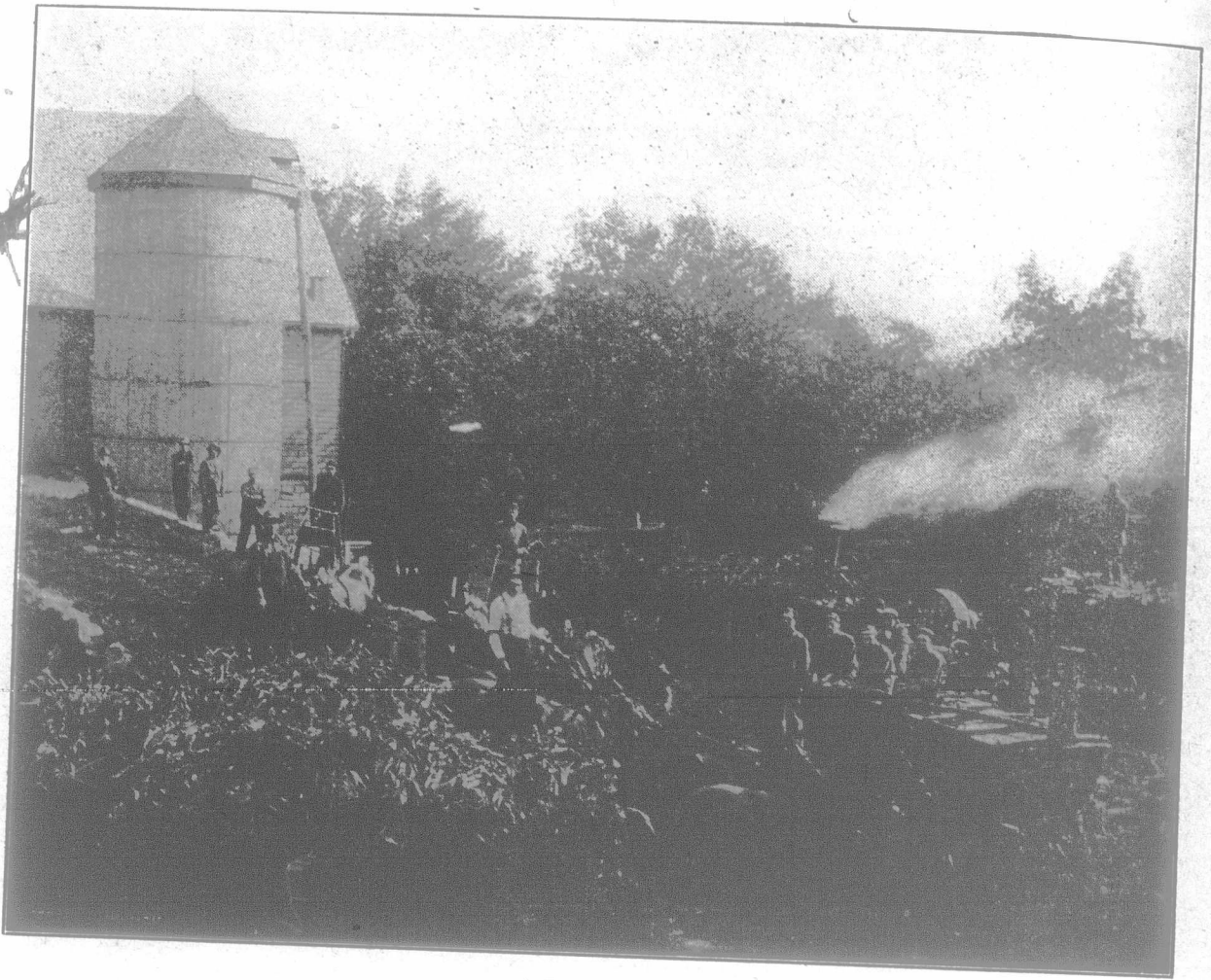
Substitution perhaps is the cause of more trouble than the scrubs, and a great deal worse because wilful. Investigations have been necessary to clear cases of substitution. The great trouble is to place the crime where it belongs, as the animal is often transferred several times, and some of the owners may be speculators.

Some years ago when I was stocking up with pure-breds I visited several herds that had been operating for years and yet contained some grade females. This looked suspicious to me. Another breeder had, at the station and also his barn, posters stating that he was buying grade Holstein heifer calves. I didn't buy there, though I was sure he had a lot of good stock. I found several herds where no grades were admitted, and from such herds I selected my foundation stock. Were I to keep grades in my herd I believe I would be driving buyers away instead of inducing them to come.

My advice to intending purchasers is to avoid dealers or speculators; avoid herds mixed with grades; keep your females secure from wandering scrubs, and you will get nothing but the black and white spots with white feet and white brush, which are the color standards they must line up to for registration.

JAMES NEVILL, SR.

[Note.—Legislation was passed at the last session of the Ontario Legislature making it possible to put a stop to bulls roaming at large. We think it would be scarcely fair to owners of herds part of which are pure-bred and the remainder grades, to advise buyers not to look for pure-bred stock in such herds. We know plenty of them which contain good cattle, and where the owner is honest and straightforward and would not attempt to deceive a buyer by selling him a grade for a pure-bred.—Editor.]

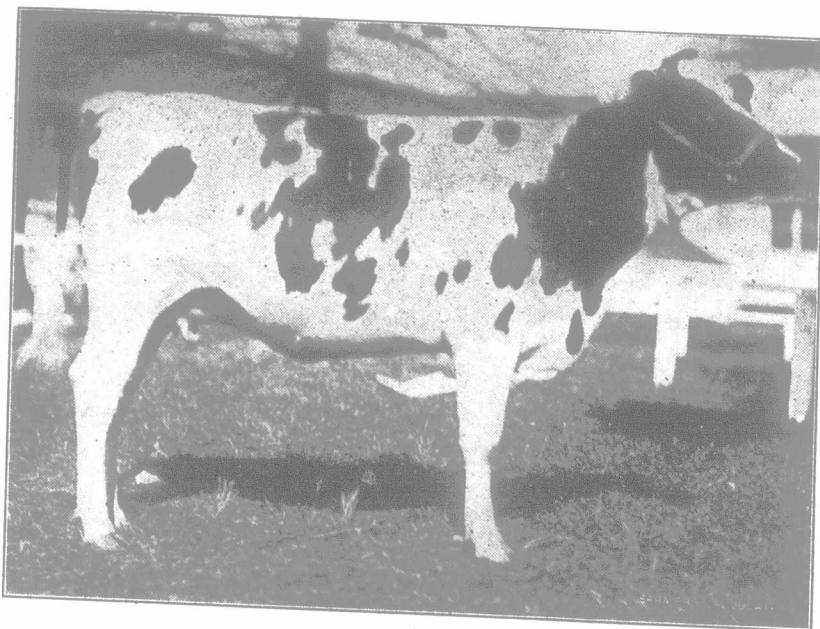


A Busy Day.

Silo-filling on Lakeview Farm. Owned by E. F. Osler, Bronte, Ont.

Suggestions for Dairymen.

Sometime dairymen argue that in economical production no feeds should be bought from outside quarters, but everything necessary to combine a well-balanced ration should be grown upon the farm. To a certain extent this point is well taken as alfalfa, or clover hay, roots, silage and chop make up nearly as good a combination as can be conceived of, yet bearing in mind the fact that the ration is improved by variety, it is sometimes wise to purchase protein-rich concentrates in order to eke out the mixture. Unless the stock be over-heavy it will not be wise, of course, to purchase carbohydrates or roughage, for any farm should produce these in large quantities, unless they be overtaken by unfavorable conditions during the growing season. However, when feeds can be purchased for a moderate price that contain from thirty to thirty-five per cent. digestible protein more stock could be kept, for a small quantity of this commercial concen-



Madolyn Duchess Sarcastic.

First-prize senior yearling at Toronto; first and champion at London. Owned by L. H. Lipsit, Stratfordville, Ont.

trate will replace a large quantity of clover hay or roughage. The ration can be balanced to the critical point, depending upon the constitution and individuality of the animals, and, generally speaking, it is not unwise to invest in the commercial product if it is dispensed to the stock with discretion.

Twenty suggestions taken from Bulletin No. 180, published by the Vermont Agricultural Experiment Station, follow as a sequel to these remarks, and they may well be followed by dairymen.

The average cow requires about 24 pounds of digestible dry matter daily.

Roughly two-thirds of this digestible matter should be furnished in the form of roughage, and one-third as concentrates.

Not less than two-thirds of the total dry matter eaten should be digestible.

Variety in feeds is required if cows are to yield the best results.

The succulence which in summer is found in pasture grass, and which is so desirable a feature in a dairy ration, may be furnished during other seasons by silage, roots and apple pomace.

Balanced rations are apt to afford the best results, because an animal thus secures nutrients in much the same proportions that she utilizes them. There is no material excess to induce disarrangement of the digestive system or to be wasted; and there is less likelihood of unsupplied deficiencies.

Feed all the roughage a cow will clean up.

Feed one pound of grain to every three or four pounds of milk yielded daily, varying according to the roughage supplied and the fat percentage of the milk.

A good arrangement for feeding is to feed one-half of the grain and silage in the morning, and one-half at night after milking, and to feed hay after the other feeds are consumed. A little hay may be fed at noon if desired.

Vary the amount of the feed according to the size and production of the individual animal.

Salt regularly; three-fourths of an ounce daily is sufficient.

Water regularly, taking the chill off the water in the winter.

Change from barn feed to pasture feed gradually in the spring.

Feed grain in the summer to high-producing cows, varying the amount fed according to pasture supplies.

Use soiling crops or silage to supplement pasture as far as possible.

Keep dry cows in good flesh.

Give laxative foods to a cow for a week previous to her freshening.

Work up gradually to the full grain ration after freshening, taking two or three weeks in doing this.

Reduce the grain ration slowly as production decreases.

Watch your cows and feed according to individual needs.

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