

underpinning than the horse although of equal weight but having the lighter legs.

In all stock breeding there seems to have been a tendency during recent years to turn to "quality" rather than substance. Of course, this is not meant to infer that high quality animals are lacking in substance. Many of the best quality horses and cattle in the country are particularly strong with respect to constitution and substance as well, but there is a trimness or, if you choose, a fineness about much of the present-day high-bred stock which was not so evident in the earlier days. Quality and substance, whether it be strength of bone or depth of middle or chest, must go hand-in-hand to insure the greatest success in draft horse breeding. The stallion required to produce the heavy geldings which bring the top prices of the market must have size. No pony-boned individual, with small effeminate head, is likely to be a success in this particular line of breeding. Canadian importers and breeders have not lost sight of the fact that size and substance, coupled with quality, are necessary in every draft horse "to fill the bill." Quality alone falls short of the mark, as also do size and substance if the former requisite is lacking.

Inbreeding has been blamed for the decrease in size of some breeds of stock, and particularly in certain branches of breeds, even to the Clydesdale horse. Breeders who practised it in the past came to the conclusion that it tended towards fineness of texture, lightness of bone, smoothness, evenness and polish, but at the expense of robustness, strength, vigor and power. Crosses of practically unrelated blood in the breed are always to be desired. Cross families of the breed, but do not cross breeds. The evils of inbreeding accumulate slowly, but they surely come in time. The evils of violent cross-breeding are also many.

We are pleased that the breeders of horses in Scotland recognize Canada as their "best" market, and that they value Canadian judgment so highly. Canadian horsemen should keep their eyes set upon the drafter which is a "drafter" in body and limb. This means horses with an abundance of bone and quality equal to that of the finer or pony-drafter type.

LIVE STOCK.

Feed cattle economically by using silos for winter and summer use. Such a course will cause larger profits, and larger profits mean increased production in time.

Breeding stock of the beef breeds is now reasonable in price. Good grade cows and pure-bred bulls, or better still pure-breds of both sexes, may be had to found a herd for beef production without an unreasonable outlay. It looks like a good time to commence raising beef cattle.

The Sacrificial Slaughter.

According to official figures the slaughter of calves has increased in the United States by 600 per cent. in the last twenty-two years. We know that it has increased in this country also at almost alarming proportions. Beef cattle are scarce. So say the feeders and drovers, and yet the calves go to the block. Why should this be? Many calves, from cows kept exclusively for milk production, never even reach the block as veal. All the value these calves have, in the eyes of the cows' owners, is to cause the maternal instinct in their dams to become active in the form of well-filled milk cans. The cry for more milk in the centers of population has diverted attention from beef production. It is human nature to rush from one extreme to another. Beef became comparatively cheap and the demand was light; milk became scarce, and the demand grew. Many turned their attention entirely toward milk production. Calves were vealed or discarded as almost valueless. The main goal was increased milk production. But now beef is scarce and prices are better, and likely to soar higher. A reasonable profit may now be made from beef production economically managed. The producer cannot get the beef without the milk. This milk and beef combination looks like one which should escape even the "Sherman law." Why not make money from beef as well as milk? It is worth a trial, and in doing so use good bulls in place of the "scrubs," intended for no other purpose than to impregnate cows and stimulate milk flow. No cow, no matter how nondescript, is so inferior that it matters not what class of bull she is served by. Use good bulls of a milking strain of a beef breed, and if you do not desire to feed the calves to mature beef animals, let some feeder have them for his feed lot. If they are the right kind they will sell readily. By all means stop the loss to the country of the over-slaughtering of calves.

Pigs, Grain and Fruit.

Editor "The Farmer's Advocate.":

The accompanying illustration shows Harry A. Smith, Welland Co., Ont., feeding his drove of swine, consisting of seventy head at the time this was taken, though not all are to be seen in the illustration.

Along with the hog industry Mr. Smith raises some excellent crops of grain.



Come Early and Avoid the Rush.

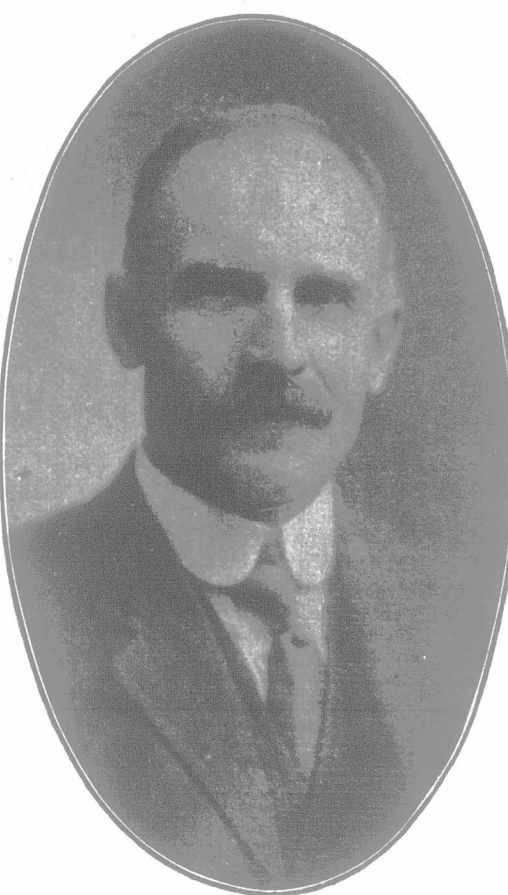
Lunch-time in the hog paddock.

In the background will be seen the orchard being prepared for spraying. Mr. Smith has but a small orchard, but by spraying last season he barrelled about 375 barrels, chiefly of No. 1 apples, besides hauling to the evaporator 1,000 bushels or more, which goes to show that it pays to spray.

Nothing is denied to well-directed labor. Nothing is obtained without it. Fungi or insects cannot dwell where spraying is practiced. Alert farmers spray their orchards. Are you one of them?

Welland Co., Ont.

W. B. MARR.



H. Smith, Hay, Ont.

Recently elected President Dominion Shorthorn-Breeders' Association.

Some Steer-Feeding Experiments.

In steer feeding experiment in Alabama during the winter of 1909-10, 60 grade Hereford, Aberdeen-Angus, and Shorthorn steers from two to three years old were fed for 84 days. During the first 28 days, each lot received a daily ration of 4.64 lbs. of cotton-seed meal per head, which was increased to 6 lbs. for the next 28 days and to 7.73 lbs. for the last 28 days. In addition, all lots were fed cotton-seed hulls during the whole period, and for the first 56 days Lot 1 was fed corn silage, and Lot 2 Johnson grass hay for the full period. At the end of 56 days, when the silage supply gave out, the average daily gain per head for the silage-fed steers was 1.86 lbs., which was made at a cost of 7.98 cts. and a consumption of 2.87 lbs. of cotton-seed meal per pound of gain. The lot fed Johnson grass hay had gained 1.43 lbs. each daily at a cost of 11.88 cts. and a consumption of 3.72 lbs. of cotton-seed meal per pound of gain. The lot fed the cotton-seed meal and hulls had gained 1.89 lbs. each daily at a cost of 8.8 cts. and a consumption of 2.8 lbs. of cotton-seed meal per pound of gain. For the whole 84 days the daily gains per head were for Lot 1, 1.8 lbs.; Lot 2, 1.54 lbs., and for Lot 3, 1.71 lbs.

WINTERING PREPARATORY TO GRASS FATTENING.

In continuation of this work, and to ascertain the best methods of feeding steers in preparation for grass fattening, thirty-five 2-year-old grade Shorthorn and Aberdeen-Angus steers weighing about 616 lbs. each were used. The winter rations, which were intended to carry the steers through in condition to be fattened in summer, were: For Lot 1, 2.35 lbs. cotton-seed meal and 13.29 lbs. cotton-seed hulls each daily, and for Lot 2, 2.35 lbs. cotton-seed meal, 6.82 lbs. cotton-seed hulls and 5.5 lbs. Johnson grass hay. On these rations for 116 days the steers in Lot 1 made an average daily gain of 0.64 lb. each at a cost of 12.05 cts. per pound, and those in Lot 2, 0.59 lb. at a cost of 14.71 cts. per pound. In the spring of 1910 these two lots were combined and fattened on a sandy loam pasture that afforded an abundance of grass. In addition to pasturage, they were fed per head per day 2.19 lbs. cotton-seed cake at the beginning, which was gradually increased to 6 lbs. toward the end of the period. During this period, 147 days, the steers made an average daily gain of 1.14 lbs. each at a cost of 7.06 cts. per pound. For the whole period, winter and spring, the steers of Lot 1 were fed at a loss of \$4.97 each, and those of Lot 2 at a loss of \$5.95 each.

In another test 43 common steers of the neighborhood, from three to four years old, weighing 565 lbs. each, were used. These steers cost in the fall of 1909 \$2.25 per hundredweight. During the winter they had the run of a 20,000-acre range and received no additional feed. Under these conditions they made an average daily gain of 0.08 lb. each. At the close of this period these steers were divided into two lots and fattened on pasture for the late summer market. In addition to pasturage, Lot 1 was fed 2.84 lbs. cotton-seed cake each daily, which was gradually increased to 5 lbs. toward the close of the period; Lot 2 received nothing in addition to pasturage. During this period, 113 days, Lot 1 made an average daily gain of 1.42 lbs. each at a cost of 4.82 cts. per pound, and Lot 2, 1.33 lbs. each at a cost of 1.55 cts. per pound. A profit of \$6.97 per steer was realized on Lot 1 and \$11 per steer on Lot 2. In figuring the cost of gains, profits, and losses, cotton-seed meal and cake were charged at \$26 each; cotton-seed hulls, \$7; and Johnson grass hay, \$11 per ton; pasturage, 50 cts. per steer per month, and range nothing.

SHORT VERSUS LONG-FED STEERS.

Further work was done with two hundred and twenty-four steers fattened on pasture during the three years, 1909-11. The steers were mostly grade Aberdeen-Angus, Shorthorn, Hereford, and Red Polled, though a few had a predominance of Jersey and scrub breeding. The steers in the long-fed lots were given from 2.21 to 2.88 lbs. of cotton-seed cake at the beginning of the tests, while those in the short-fed lots received from 3.24 to 3.40 lbs. each daily. At the close of the test each steer in the long-fed lots was consuming from 3½ to 4 lbs. of cake, while those in the short-fed lots were consuming an average of 5 lbs. daily. An abundance of pasture was supplied for each lot, the short-fed steers being put on pasture and marketed earlier than the long-fed steers. The average daily gain of 35 short-fed steers in 1909 was 1.96 lbs. at a cost per pound of 3.76 cents and a profit per steer of \$8.25. In 1910, 30 short-fed steers gained 2.21 lbs. each daily at a cost per pound of 3.32 cents and a profit per steer of \$9.90, and in 1911, 25 head gained 1.96 pounds daily at a cost of 4.02 cents per pound and a profit per steer of \$6.81. The 90 fed made an average daily gain of 2.04