Experiments have shown that the greatest gains in feeding cattle are made with steers which measure large around the girths at the beginning of the feeding period, and size of middle girth is also an important factor in determining gains.

The sow which has the run of the barnyard, and is housed in a comfortable pen at night during the winter months, is far more likely to produce a strong healthy litter, than the one which is continually confined to a small pen in the same building with the fattening pigs.

Soaking pig feed for twelve hours in a clean, sweet barrel is good practice. It prevents waste in feeding. The feed should be fed quite thick. With too much water added it is too sloppy, and the pigs get too much water, which must be heated up at the expense of the blood.

Reporting the great Cranford sale of milking Shorthorns, the Farmer and Stockbreeder remarks that "Verily it was a triumph for the new state of affairs, and more than ever a strong vindication of the value of milk records. To breed upon that basis is the only system which will secure the confidence of the breeder in the future."

Feeding steers should now be in the stalls. It is a grave mistake to allow them to stand around humped up on the lee side of a snake-fence, with their hair standing on end in a vain attempt to keep out the cold which accompanies the squally weather of this season. A few days of such conditions will take more off the steers than can be replaced in weeks.

When the sheep come in from the fields do not make the fatal mistake of placing the breeding ewes and the ewe lambs in the same pen. This is never fair to the lambs, and the future of the flock depends largely upon the treatment of the ewe lambs the first winter. They never get their share of the feed when compelled to rustle for it with the older ewes.

Winter shelter is necessary for all live-stock, but it is possible to overdo it just as it is often neglected. Too close housing is not conducive to vigor, especially where the stables are kept too warm as a result of poor ventilation. Fresh air although it is cold is not detrimental to animal health, provided it does not come in drafts. Shelter should not mean hot-housing. Exercise in the open air and fresh air all the time, are two of the secrets of health of animals.

The stock breeder who is working with grade stock, has the fixing of the type in his own hands. Utility should be his only aim, and in reaching his objective he will find it to his advantage to mate animals of as nearly the same type as possible. Better results come when the various characters, which each animal possesses, are not too much diversified, but are more nearly identical. It is seldom indeed that good results come from violent crossing.

Variety in winter feeding has a marked influence upon the amount of feed an animal will consume. Variety also increases palatability, and palatability promotes digestibility, and digestibility favors animal increase. If an animal's appetite is greater and the food is more digestible when fed in variety, then as a result of an increased amount taken into the body and an increased amount absorbed, the animal must grow or fatten more quickly, and at less expense. Variety is one of the big problems in winter live-stock feeding where maximum returns are aimed at.

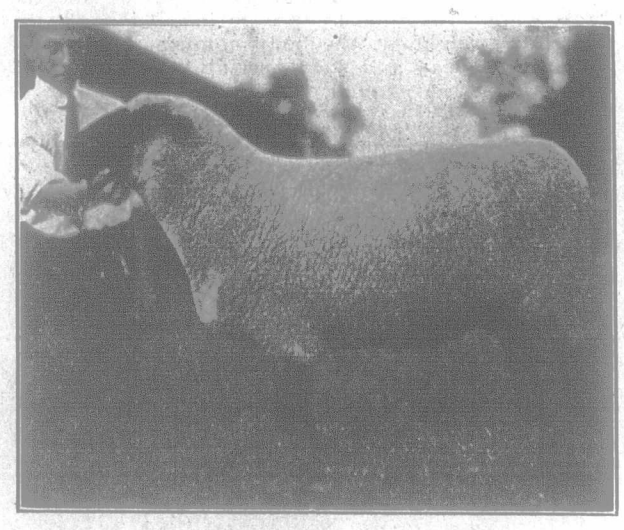
Owing to wet, unfavorable weather, a great deal of grain in the Prairie Provinces has been harvested in poor condition. Almost half of the wheat inspected at the market is put down as no-grade. In fact on some days there is even more than one-half of the spring wheat in this class. What must the producer expect to obtain for such produce? While from a nutrition point of view this wheat has a high value, it must realize a greatly depreciated price on the world's market.

In order that the producer may obtain his just share for the value of food constituents sold off his farm, our Western contemporary recommends that hog-raising be taken up.

Over-nutrition and a lack of sufficient food both work against fecundity in live-stock. Some of the most highly fitted show animals are not sure breeders, and some of those very low in flesh do not conceive readily. All life, plant and animal is much the same as regards breeding. Take for instance a rose bush, and feed that bush an extra large amount of fertilizer and it will grow luxuriantly, but will not flower as well as if less food were given. The same bush in very poor soil with no fertilizer might put out a few small withered flowers, and would sicken and die. It is the same with out domesticated live-stock. "Good breeding condition" is a term often heard, but it requires some skill to feed the calf, the colt, the pig or the sheep up to breeding age, and on through its breeding life without at some time impairing, to some extent, at least, its usefulness as a progenitor of its race.

Catching and Holding Sheep.

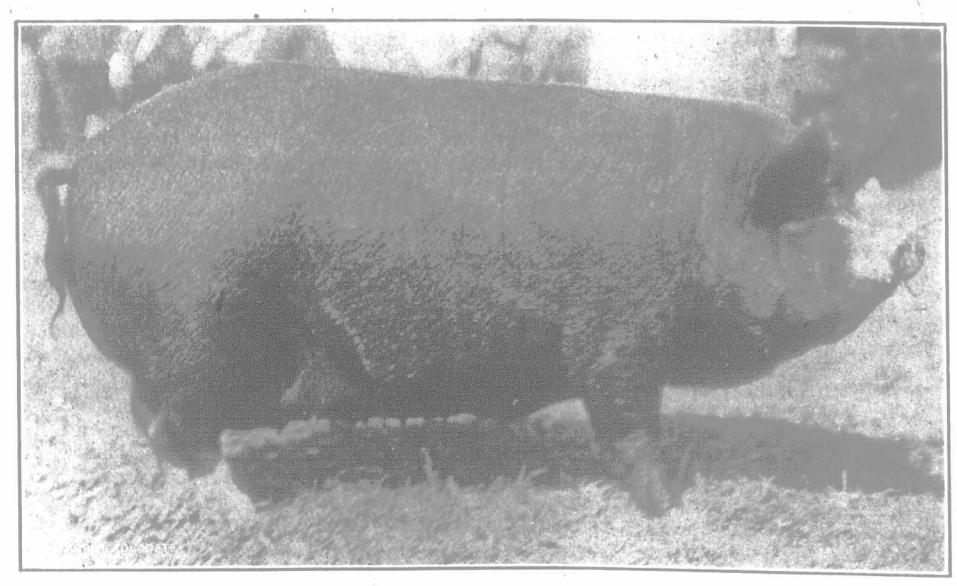
There is a right way and a wrong way to do everything, and it is astounding how many times the simplest of operations are performed the wrong way. Few except breeders and experienced shepherds know how to catch and hold a sheep, and it is amusing sometimes to watch a "new" man attempting to control a live yearling as it bucks, rears and pulls in an effort to free itself from the awkward hold of the inexperienced man



Hampshire Ewe.

This two-shear ewe, owned by John Kelly, Shakespeare, Ont., was champion of the breed at Toronto, 1912.

in charge, who by his tugging and pulling at the poor victim's fleece is causing it considerable pain. While the wool makes a very good hand hold, it was never meant for that purpose. It seems an easy matter to rush amongst the cowering flock in one corner of the pen or yard, and bury one's hands in the fluffy back, and literally lift the sheep off its feet while it paws the air in a vain endeavor to escape its captor. This is surely the wrong method and never should be tolerated in the flock. If a sheep so caught is killed and dressed soon afterwards, a black mark or bruise will be noticed on the carcass where the wool has been pulled in holding the sheep. There are two places to catch the sheep, by the hind leg above the gambril joint, or just in under the jaw.



Berkshire Sow.

First prize and sweepstakes at Toronto and London, 1912. Owned by John S. Cowan, Donegal, Ont.

The best place is under the jaw, as the sheep will then stand comparatively quiet, struggling very little to be free as no pain is experienced, and the sheep is fast. Don't grab the sheep by the top-knot when holding it, and don't hang to its throat as if you were chocking it. The hand held loosely under the jaw is all that is necessary after the sheep once realizes that it is caught. When using a crook don't catch them too low on the hind leg, it is dangerous. A sheep properly managed is the most docile of animals, and unless roughly or improperly handled soon yields to being caught and held without trouble.

Silage and Alfalfa in Economical Beef Production.

In a bulletin on economic beef production of the Nebraska Agricultural Experiment Station, an experiment is reported where a heavy feed of shelled corn and alfalfa was compared with a heavy feed of shelled corn, alfalfa and corn stover. When the stover was introduced, the average daily gain made by the ten steers was 2.4 lbs., as compared with 2.3 lbs. made by the ten fed corn and alfalfa alone, and the cost of 100 lbs. gain was $6.49 with stover, and $6.89 without, the stover being figured at $2.50 per ton and the alfalfa at $6.00. The following year, when a light feed of snapped corn was used, the daily gain was 0.1 lb. less with alfalfa and stover than with alfalfa alone, but here again the cost of producing 100 lbs. of gain was 50 cents per cwt. less by the use of both stover and alfalfa for roughage and the profits correspondingly greater. From the results it would seem less necessary to use stover when snapped corn is fed, very likely because the husk and cob serve to some degree the same purpose as the stover, lessening the tendency of the cattle to scour, and at the same time giving more variety to the ration.

Following this, the next step was to determine the most economical proportion of corn to alfalfa—whether a heavy feed of grain, a medium feed, or a light feed, with correspondingly more alfalfa. Three experiments were made dealing with this problem. In the first, a little more than half a feed of shelled corn (13.9 lbs. daily to each steer) was compared with a full feed (22.3 lbs.), the roughage consisting of alfalfa and corn-stover. In the second, three different quantities of grain were used, 12, 17 and 19.8 lbs., and in the third, 12, 15.6 and 18.8 lbs. The same kind of roughage was used in the second as in the first, namely, alfalfa and shredded stover, the latter being more convenient to weigh and feed than the unshelled stover. In the third, only alfalfa was fed for roughage, and corn-meal was substituted for shelled corn.

In the first experiment, in which the roughage consisted of alfalfa and corn-stover, the light-fed steers gained 0.41 pounds less per day for a period of twenty-four weeks than the heavy-fed steers during a period of twenty weeks. The average gain of each steer of the two groups—one fed four weeks longer than the other—was the same, viz., 339 lbs. At the prices of corn and alfalfa and stover on the farm at that time (which were much less than now), the net cost of producing gains was 27 cents per cwt. less with the light grain ration than with the heavy.

When the second experiment was made, corn was worth half as much again as when the first was made and alfalfa had risen one dollar per ton and stover $1.50 per ton in value. With the higher prices, the cost of producing gains was again least on the light feed of corn, but the profits were somewhat higher on the heavier-fed cattle, because they were all fed the same length of time and sold on the same date, the light-fed cattle bringing 25 cents per cwt less than the heavier-fed cattle. Had the light-fed cattle been fed an extra month, they would have undoubtedly shown as much condition of flesh, and would then have brought as much per pound.

The last experiment gave the best showing for the light-fed cattle. In this case, the corn was ground. On corn-meal, a full grain ration for two-year-old steers seemed to be about three lbs. per day less than on shelled corn. From this it might be inferred that a steer's capacity is limited by the amount of grain assimilated rather than by the amount fed, as much corn passes through undigested when the whole grain is used. In this experiment, corn was figured at $1.07 per cwt. and alfalfa at $7.00 per ton, and the cost of gains on the light-fed steers was 81 cents per cwt. less than on the medium-fed group and $1.67 less than on the heavy-fed group. The heavy fed steers were at a disadvantage, however, as alfalfa was used exclusively in their roughage ration. With a heavy feed of clear corn and alfalfa, cattle seem to be affected to a consider-