

As soon as the foal will eat, allow him access to crushed oats and wheat bran. When he has reached the age of from six weeks to two months old, sweet skim milk can gradually be substituted for the whole milk, but, remember, it must be sweet, and the change made gradually. When three months old, skim milk may form the entire milk ration in place of sweet milk, and feeding three times daily will be found sufficient. Do not give too large quantities, as it is likely to make the colt "pot-bellied." Give pure cold drinking water at all times. As soon as grass comes, allow the colt to run in a paddock. Feed grain and bran liberally to make up for the loss occasioned by not getting the dam's milk. With reasonable precautions, good success should result from rearing the colt "by hand."

A Clydesdale colt was recently sold by a Western Ontario horseman, which, at two days less than ten months of age, weighed 1,075 pounds, girthed six feet, and stood 15 hands 1½ inches high. This is the class of colt the dealer is looking for—size, accompanied by quality. If the colt, which is a filly, goes on making gains at the rate she has grown so far, she will weigh, when mature, nearly 2,500 pounds. The big drafter is the class of heavy horse to produce.

LIVE STOCK.

Mineral Food Requirements of Swine.

The Agricultural Chemistry and Animal Husbandry Departments of Wisconsin University have done considerable work, as brought out in the Director's report, on the lime (or calcium) requirements of swine during various stages of development. The normal grain feeds are found to contain insufficient lime for the best development of growing animals, and the addition of floats (calcium phosphate), ground limestone (calcium carbonate), or finely ground leguminous hays, such as alfalfa or clover (which are rich in lime), are especially helpful in developing a strong skeleton. The experimental results indicate that mature swine, not forming new muscular tissue, or undergoing such physiological processes as milk secretion and reproduction, can be maintained in a normal condition on a low lime supply. It has been claimed that if pregnant animals are supplied with an abundance of lime, the skeleton of the offspring will be larger and heavier than normally, and contain increased quantities of lime. A study of this particular problem with swine indicates no apparent influence where the mother received a high-lime intake.

The theory has been advanced that rations containing a large amount of magnesium, compared with the amount of calcium present, will not produce a normal development of skeleton, and may even lead to disease. It is asserted that when an excess of magnesium is taken into the body, the calcium salts are withdrawn from certain tissues, to counteract the poisonous effect of magnesium, and that later both calcium and magnesium are excreted from the body. The so-called "bran disease," "shorts disease," or "miller's horse rickets" in horses (which is an affection of the bone) has been attributed to an excess of magnesium in relation to calcium in the food. This problem has been studied with swine, and it has been found that where magnesium salts are directly injected into the blood or added with the food as sulphates or chlorides, an increased excretion of calcium occurs in the urine. However, where such feeds as wheat middlings or wheat bran are given, which contain a large amount of magnesium, compared to the content of calcium, this increased calcium excretion does not occur. The poor results with such feeds do not appear to be due to the excess of magnesium, but possibly to an insufficient amount of calcium.

Community Breeders' Association

Almost every live-stock country or section of country contains breeders of a number of widely-diversified breeds of live stock. Nearly all the various breeds of horses, cattle, sheep and swine, particularly the last three, are kept within a radius of a few miles. This does not prove to be in the best interests of any one particular breed. Often there are not enough animals of a breed in the locality to warrant the keeping of the very best type of sire. The large number of breeds offers an easier opportunity for cross breeding, which is seldom advisable. A breeder tiring somewhat of his breed, is curious to know what the product would be if he crossed his cows with his neighbor's bull of an entirely different breed. To satisfy his curiosity, he tries it. The results seldom justify the practice, yet it continues, and more cross-breeds result. There is room for all our best-known breeds, but if they could be so distributed as to confine a neighborhood to the breeding of one breed of horses, one breed of cat-

tle, one breed of sheep, and one breed of hogs, more uniform results in breeding, feeding and selling of live stock would result.

The State of Wisconsin now has forty-seven community breeders associations of dairy cattle in thirty-two counties. Lectures are given to the various associations by members of the Animal Husbandry Department of the University. The use of pure-bred dairy sires and better selection of dairy cows, also better management in the dairies, are encouraged. As an example of what is being accomplished, the director of Wisconsin University cites the Waukesha County Guernsey Breeders' Association, organized in 1906 by ten men owning only a few Guernseys. The association now has a membership of eighty breeders who own 1,500 pure-bred animals. The demand for high-grade and pure-bred cattle in the county has doubled since the organization of the associations. Assistance has been given the members in purchasing cattle, and better methods of breeding, feeding and managing the herds have been fostered. Other associations have been equally prosperous.

How many communities in Canada could be benefited by such a system? What a boon such a project could be made to the sheep industry, which now needs considerable fostering to bring it up to its deserving position in our agriculture. There is scarcely a class or breed of stock that would not be benefited, and the breeders would reap the reward. In place of a conglomeration of different breeds in each district, largely composed of cross-bred, pure-breds of a distinct breed would be dominant in each locality, and that locality would become noted for its stock. Buyers would know where to go and just what kind of stock would be offered. Prices would advance, and interest in live stock increase.

Give the Grass a Chance.

Conservation is the cry of the age. Governments are paying more attention each year to conserving the countries' natural resources. Those interested in soil cultivation know how important it is to conserve soil moisture by thorough tillage. In fact, farmers have various means of practicing conservation, and one of the most seasonable just now is to conserve the pasture grass. We have had a long, steady, hard winter. Feed has been scarce on many farms, and market prices of hay and other roughage have reached almost famine proportions. Reports state that live stock is in a healthy condition, but rather thin, owing to feed scarcity. In view of the fact that all kinds of feed, both grain and roughage, are so scarce, much of the live stock is likely to be turned out on pasture before the grass is old enough to contain much real feeding value. Pasture grass is nature's most palatable and easily-digested stock food. It is sweet and tender, and contains all the food constituents necessary to the maintenance or replenishing of the animal body. However, very young grass is not of great value as a feed. It is rich in nitrogen and ash constituents. It requires sunlight and warmth to fix the carbon compounds. The greater the leaf-surface and the more sunlight obtained, the greater the amount of carbohydrate material in the grass. It is also known that very young grass contains over twenty-five per cent of its nitrogenous material in the amide form. Amides cannot take the place of albuminoids (the higher form of proteid material) as muscle-forming constituents, so are not so valuable as a food. As the grass becomes older, the proteid content is made up more largely of albuminoids. While the amides do not take the place of albuminoids, they have the power to protect them from waste. Very young grass, then, not having attained its highest value in protein content, and not having had access to sufficient sunlight to give it a high carbohydrate content, is largely composed of sap or water. It is extremely tender, and, after months on dry feed, and often a scant supply of that, stock eat greedily of it, and, in fact, if their hunger is to be satisfied, they must consume large quantities to get sufficient nourishment.

These young grass shoots, when eaten in large quantity by the stock, have a somewhat detrimental effect on their digestive system. True, the laxative effect is often beneficial after the dry feed of winter, but the watery grass, eaten too freely, very often causes severe purgation, which tends to weaken the animal. Care must be taken, when the stock is turned on any grass for the first time, but when the grass is very young and tender there is need to be doubly cautious. It is better to keep the animals off until the grass contains some substance, because, once they get a taste of green feed, they become restless, and it is with great difficulty, very often, that they are made to eat dry feed.

Pasturing too early also is ruinous to the meadow. It is said that over three thousand weight of grass may be taken in a single season

which the stock have not been turned until it had gained a considerable start, than from one on which the grass was fairly eaten out by the roots from the very day the snow disappeared in the spring. Allowing the grass to get a start gives the land a mulch, which prevents rapid evaporation of moisture and retains the soil water for summer use of the crop, insuring a much longer period of fresh green pasture. Pastures eaten bare in early spring very often grow up to weeds, as there is nothing to keep them down. The very heart is eaten out of the meadow, and it never recovers throughout the season. Just at the time the young grass plant is putting forth every effort to re-establish itself after the long, severe winter, along come the live stock and clip off its only means of getting food from the air, leaving only a weakened, struggling root-system, which has great difficulty in surviving the shock. This process is repeated throughout the summer, and the meadow becomes bare and brown, the stock gaunt and thin, and the owner wonders what is wrong with his pasture.

The whole secret is, give the grass a chance to become established in the spring. Keep the stock off the meadow as long as possible. A few days on short rations in the spring will not injure the animals half so much as an entire season of poor pasture, and a few days often makes a great difference in the spring. Another point to observe is not to let the live stock wander over meadows intended for hay. They give the grass a setback which is always apparent in the hay crop, and they very often punch the meadow full of holes, which not only injure the grass, but make very rough cutting. Keep the animals confined until the grass gets a start and has a feeding value considerably above that of the colored and slight-sweetened water, which is a fair approximation of the value of very young grass.

THE FARM.

Eight-foot Silos.

Editor "The Farmer's Advocate":

Although not a subscriber, I notice an inquiry in "The Farmer's Advocate" about an 8-foot silo. I have two, 8 x 23, and 8 x 27. I have no difficulty about waste, except a little at doors, which are continuous. Corn settles perfectly. One in silo can do the work all right. Mine are side by side, about a foot and a half apart, under east gable of barn, well protected from wind; have roof over both, holding them together and to the barn. Year before last I filled into peak of roof, allowed to settle, and filled again, and fed at once to ten cows, heaped bushel each a day, seven and a half months. Had enough over to feed six weeks last summer. It took four acres of well-eared corn, ten or eleven feet high, Southern Sweet variety, ripe enough to grow on top of silo. In my opinion, no one need be afraid of using an 8-foot silo, except for danger of blowing over. Two 8-foot silos are much better than one 11 or 12-foot silo. J. R. JOB.

Halton Co., Ont.

[Thanks for this note. Experience is always assuring. However, we note that ten cows are fed from this silo. Were there only three or four, as our inquirer proposed, the layer daily removed would be much thinner, and the tendency to spoilage very much greater. In these small silos, too much depends upon the silo walls and upon the stage at which and the manner in which the corn is ensiled. In general, we favor deep, rather than wide silos, but, so long as one has adequate depth to permit removal of 1½ or 2 inches each day, the greater the width, the more economical.—Editor.]

Controlling Wild Oats.

I have just noticed an inquiry in your paper as to how to get rid of wild oats. As I have had a good deal of experience with them, I will give you my idea of ridding a field of them, without losing a season's crop. Have your field plowed in the fall, so as to expose them to the frost, then cultivate in spring and sow a few oats and peas. Use your own judgment as to how many oats you sow, as it depends upon how many wild oats are in the soil. It is well to have a very thick crop, then cut out before wild oats are matured and make hay of the crop. Well-saved hay of this kind is as good as clover. Skim plow and harrow as soon as the field is stripped then give a covering of manure and sow to fall wheat, and seed to clover and timothy. When broken up again, repeat the operation, until all is rotten rid of.

Of course, a good crop is good where you have not too much land affected, but the above is good where there is considerable acreage to attend to. J. R. JOB.

A. S.