

EFFICIENT FARMING

MINERAL MIXTURES AND MEAT MEALS FOR BACON HOGS.

The availability of mineral matter for the proper nutrition of hogs is of vital importance and the normal demand for such in the development of frame and also in the functioning of the vital processes is strikingly apparent when such is lacking, more particularly with young growing pigs and brood sows.

The lack of an adequate calcium or phosphorus supply is not immediately apparent, but after a more or less prolonged period such a deficiency will be manifested by a general debility and lack of tone in the animal and this followed by decreased production.

Of all classes of livestock hogs suffer more frequently because of their inability to utilize bulky roughages, these roughages being a fruitful source from which to draw sufficient mineral constituents to maintain the body requirements. The cereal grains are low in calcium and unless this constituent is supplied from another source such a ration may be found unsatisfactory, if used exclusively. The addition of succulent feeds, such as roots, beet pulp, molasses, etc., and also leguminous roughages such as clover or alfalfa hay is necessary, because of the mineral content of these feeds, among other reasons, and such cannot be too strongly advocated for winter feeding and when pasture crops are not available. Milk by-products rank high as sources of mineral matter and are a valuable supplement to the grain ration.

Other sources of mineral matter such as bone meal, meat meal, tankage, ground limestone, rock phosphate, fish meal, charcoal, etc., are more expensive but valuable sources upon which to draw.

The exact amount of these last that should be supplied has not been definitely determined. With the object of obtaining some information on this matter, therefore, five lots of hogs totaling in all twenty head were fed on a ration composed of ground oats, 2 parts; ground barley, shorts, and middlings, each 1 part; and oil meal 3 per cent., supplemented with skim-milk. Lot 1 was used as a check on the other four lots each of which was fed a mineral meal in a self-feeder; Lot 2 being fed tankage; Lot 3, meat meal; Lot 4, fish meal; and Lot 5, meat and bone meal.

During the first period of 60 days on the above ration the hogs consumed 5.53 per cent. of tankage, 9.45 per cent. of meat meal, 4.72 per cent. of fish meal, and 3.51 per cent. of meat and bone meal and with the exception of the last lot made .03 to .1 of a pound greater daily gains per hog than the check lot. Lot 5 made slightly lower gains than the check lot. These results indicate the per cent. of these mineral meals which the hogs consumed when fed the above meal ration supplemented with skim-milk. They also indicate that the hogs which were fed these mineral feeds required somewhat less meal to produce a pound of gain in weight, the check lot requiring 2.29 lbs., the tankage lot 1.94 lbs., the meat meal lot 1.79 lbs., the fish meal 1.96 lbs., and the beef and bone meal 1.83 lbs. of meal to produce a pound of gain, while the milk consumed was 5.38 pounds for the check lot and an average of 4.88 pounds for the mineral-fed lots per pound of gain produced.

CANADA GROWS GOOD SEED.

Canadian seed growers have again demonstrated their ability to produce wheat of outstanding merit by the many winnings made at the recent Hay and Grain Show at the Twenty-fourth Annual International Live Stock Exposition recently held at Chicago.

In the class of hard red spring wheat, open to all of North America, Canada succeeded, from a field of 91 exhibits, in winning 15 out of 25 prizes, including the grand championship which went to Major Strange of Fenn, Alberta, with Marquis variety. Major Strange, a prominent and successful member of the Canadian Seed Growers' Association, also won first prize in white field peas. Second prize for hard wheat went to a Montana grower who had obtained his seed from Indian Head, Sask. Third to twelfth prizes inclusive were awarded to Canadian seed growers with the exception only of the sixth and eighth, which Montana claimed. All but two of the prize winning samples, including the first and second, were of the Marquis variety, the exceptions were Ruby and Kitchener. At least the first three prize winning samples at the International Hay and Grain Show, since, and including its inception in 1919, have been of the Marquis variety.

Repeating his victory of 1922, Mr. Biglands of Lacombe, Alberta, won the championship for white oats against all North America. In the regional contest 28 out of the 35 prizes offered for that section comprising Canada and the oat growing states west of Chicago were won by Canadian seed growers located chiefly in Alberta.

Among the various winnings for barley exhibits was that of George Avery of Kelso, Sask., who captured first in the two-rowed class. In the six-rowed class Mr. Avery took a second prize. In the Trebi, which included the large kernelled barleys grown under irrigation, Canadian growers took third, fifth and tenth prizes.

Only three exhibits from Canada competed in the white field pea division and they stood first, third and fourth.

Among other winnings were first and eighth places for red clover seed; second, sixth and tenth for alsike seed; second, fourth and fifth for sweet clover seed; fourth and sixth for alsike; eighth and twelfth for timothy; second place for rye; first, eighth, and 11th and 13th prizes for Flint corn, all grown in south-western Ontario.

Much attention was attracted by the exhibit put on by the Provincial Department of Agriculture of Alberta which consisted of a collection of very creditable ears of perfectly matured corn. It was a decided revelation to the many Americans who have long been under the impression that Western Canada was well beyond the northern limit of the corn belt.

WINTER FEEDING OF DAIRY COWS.

The cheapest milk production is made from the dairy herd while on grass, but there is no reason why fair profits cannot be made from the herd during the winter months. This, however, cannot be done by feeding hay alone or with the addition of a few roots, as is often the practice, but by feeding a well-balanced ration made up of succulents, concentrates, and roughage with a plentiful supply of good fresh water.

The summer grass must be supplemented with an abundance of good succulents such as roots and corn, oats, peas and vetch or sunflower ensilage. The value of succulents to the dairy cow is due principally to their laxative effect and to their palatability which unquestionably stimulates the digestion. A healthy digestive tract in a dairy cow is extremely important and without this she cannot consume the large quantities of concentrates and roughages so necessary for maximum production. Experiments have shown an increase of 7 per cent. in the milk flow when a succulent such as corn silage was added to a hay ration and decrease of 8 per cent. when the succulent was removed from the ration.

The choice of concentrate is governed largely by availability and cost. The mixture should consist of a reasonable number of feeds to make it more palatable. The mixture may be made up very largely of home-grown feeds such as oats, barley and wheat with the addition of oil cake or gluten meal as well as a small amount of cotton seed meal. To round out the daily ration the dairy cow should receive the best of clover hay. Poor hay fed to dairy cows only means the addition of extra expensive concentrates if high production is looked for.

The average 1,000 pound cow requires from 12 to 15 gallons of water per day, and if the cow does not drink in the morning when turned out on account of the weather being cold or stormy, she should be given the opportunity of obtaining water again later in the day. Nor will the daily ration be complete without its quota of salt—the average cow requires from ¼ to 1 ounce per day to thrive properly. The following is the ration fed at the Experimental Farm, Nappan, during the winter months: A mixture of 300 pounds bran, 200 pounds crushed oats and barley (equal parts by weight), 100 pounds oil-cake and 100 pounds cotton seed meal fed at the rate of one pound to every three and one-half pounds milk produced, adding 2½ pounds for maintenance. During the first part of the winter, roots are fed at the rate of 30 to 40 pounds per cow (in late winter and spring ensilage is given in place of roots) and good clover hay at the rate of 15 to 17 pounds per cow is fed per day.

We can pretty accurately judge a farmer by the quality of the alfalfa which he grows.

Honey and Some of Its Uses.

Honey consists of sugar about 75 per cent., water 18 per cent., and small quantities of mineral matter and other substances such as protein, acid and volatile oils.

Practically all honey produced in Canada granulates soon after extracting but this does not affect its quality but makes it easier to handle. Granulated honey can be brought back to its liquid form by heating it slowly in a double boiler to a temperature of 155 degrees Fahrenheit, a higher temperature than this darkens the honey and injures its flavor. Honey must be stored in a dry place, as it absorbs moisture quite readily, which causes it to ferment and decompose. If stored under suitable conditions, well ripened honey will keep for a long time even from one year to another.

Honey has a claim to be used regularly in every home both on account of its sweetness which is delicately flavored according to the source from which it is gathered and also because of its high food value, it being a concentrated and easily assimilated heat and energy producing food.

The bulk of Canadian honey is of unsurpassed quality being light in color and delicately flavored, therefore its uses in the home are practically limitless.

The most common way of using honey is as a spread upon toast or bread. It readily takes the place of either jam or preserves. In the making of cakes and cookies it has a decided advantage, especially for cakes that are meant to be kept for some time, as it keeps them moist and improves the flavor with age. When honey is used in cooking it must be remembered that every cup of honey contains about ¼ liquid, therefore, the amount of liquid that the recipe calls for must be cut down in proportion. As honey contains acid a small amount of soda should be used, about ¼ of a level teaspoon to every cup of honey, and the baking powder reduced. Honey should not be boiled as boiling gives it a burnt flavor. Honey also readily takes the place of sugar in canning or preserving fruits, especially plums, peaches, pears, etc. It also gives them a richer flavor. Honey can also be used instead of sugar in making jams. As a sweetener for summer drinks, honey gives refreshing results. The kinds of candy that can be made of all or part honey are numerous. Candy made of honey is much better than that made of ordinary sugar, as honey is far easier to assimilate and does not tax the digestion. Iceing made from honey will remain fresh and moist for months without being impaired in flavor or consistency.

Why Wood Alcohol is Fatal.

Old Father Hubbard went to his cupboard,

To tickle his palate, that's all;
In forty-eight hours, a prayer and some flowers—
Alas! It was wood alcohol.

—Chemical Review.

When ordinary alcohol is taken into the body it is rapidly converted into water and carbonic acid gas, which are harmless substances, always present in the body, and any excess of which is promptly eliminated by the kidneys and lungs. Wood alcohol, on the other hand, instead of being changed into harmless substances which are easily eliminated, remains in the body as such for a considerable time, and is then slowly converted into another poison—formic acid—the acid which is found in ants. These poisons, and perhaps a third formed from the wood alcohol, formaldehyde, attack the brain and other organs and cause death or blindness.

Poisonousness is an inherent quality of wood alcohol. It is as impossible to prepare non-poisonous wood alcohol as it is to prepare non-poisonous prussic acid. Individuals vary considerably in their susceptibility to wood alcohol—some die or become blind from amounts which seem to do no harm to others. This is true, however, of all poisons. Death or blindness has resulted from two teaspoonfuls of the poison. Sixty to seventy-five per cent. of those taking four ounces—that is, a quarter of a pint or half a glassful—have died or become permanently blind.

A sow must raise four pigs to pay her board. The average litter in 1923 contained 5.3 pigs. This is too small a profit. Only sows that raise big litters should be used for breeding.

For fever, tincture of aconite in seven to ten-drop doses in water every three or four hours is effective if pulse is full and bounding. As aconite is poisonous, it is best given by the veterinarian. Saltpeter in one to four-dram doses two or three times daily in water is safer for general use. For influenza combine it with five to seven drops of fluid extract of belladonna leaves, one dram of fluid extract of gentian root, two drams of sweet spirits of niter in water. This dose for an adult horse. Give a cow one-third larger dose.—A. S. Alexander.

Dollars From Winter Days

BALES HAY WITH HOME-MADE PRESS.

One method I have of using the winter months is preparing the crops for market, instead of spending a lot of money to get it done. I do the baling of the hay and straw by hand. I made a box so as to hook the corners together, stand it on end, tramp full, place chain around box and timber across top, then press with lifting jack, giving the length of jack, then catch with prop, trip the jack, put block under, then repeat until hay is brought to proper size. Bales can be made in this way in ten minutes each, with only one man at press and one man in mow. I made the box so as to have the bales larger than ordinary. —Gilbert Ferris.

DOES IT THROUGH GOOD COWS.

It seems to me that the most pleasant and profitable way to increase or make any profit at all through the winter months is through the dairy cow.

I have a herd of pure-bred Guernseys which I expect to make me a profit during the coming months.

In the first place, I belong to the county cow-testing association, and every month the tester comes to my place and checks up on the cows and their feed, showing me the ones which are the most profitable, also prepares a formula for a balanced ration, using the feeds I have on hand first, and buying the balance. Under this system a cow which does not show a profit does not stay around my place long.

The pleasure side comes in when I can go to a clean, warm stable on a cold, stormy day, do up the chores and feel that the bossies are paying me for my labor, and doing it with pleasure, too, while some of the other fellows are grumbling about the weather, hard times, and everything in general.—R. M. Stewart.

The European Corn Borer.

The European corn borer, which was discovered in Ontario three years ago, has already done much damage in such districts as have become heavily infested. A regulation governed by the Destructive Insect and Pest Act, that came into force on September 1 this year, is designed to further restrict the movement of corn and corn products from the infested districts. The quarantined area now includes a large section of south-western Ontario, including the counties of Elgin, Middlesex, Brant, Essex, Haldimand, Halton, Kent, Lambton, Lincoln, Norfolk, Oxford, Perth, Waterloo, Welland, and Wentworth. Certain townships in other counties are also subjected to quarantine. These are Brighton in Northumberland; Culross in Bruce; Darlington and Clarke in Durham; Colborne, Goderich, Grey, Hay, Hullett, McKillop, Morris, Stanley, Stephen, Tuckersworth, Turnberry and Osborne in Huron; Pickering and Whitby East and West in Ontario; Albion, Chippewagon and Toronto, including the Gore of Toronto, in Peel; Guelph and Puslinch in Wellington; and Etobicoke, Scarborough and York, in York. The plants under quarantine include corn fodder, corn stalks, broom corn, green sweet corn, roasting ears, corn on the cob and corn cobs. Except in the case of Elgin and Middlesex counties, which are placed under a double quarantine, these products may be moved without restriction within the quarantined area. Certain exemptions are provided to facilitate shipments that carry no risk of spreading the disease. These include manufactured products, cleaned shelled corn and dried sweet corn required for exhibition purposes. The latter, however, are subject to inspection at the point of destination. Corn shipped out for exhibition purposes must be returned to within the quarantined area.

My Homemade Rope Maker.

One of the handiest tools I have in my farm shop is a rope-making machine. One can be purchased, but a homemade one will do just as well and can be made for practically nothing. Take a piece of 2x4 about two feet long. Run through flatwise three pieces of five-sixteenth-inch rod, and on each bend a hook at one end and a handle at the other. Connect the handles with a strip of board to turn all three at once.

The next step is to select a post in a convenient position and fasten a hook to it.

Run several binder twines from this hook to each of the three hooks on the machine; the larger the number the stronger will be the rope. Set a three-notched board on the strands near the single hook to keep the strands from tangling. Turn the handle until the strands are well twisted. Now slide the notched board slowly toward the machine and the rope will twist itself. Slice off the fibres with a blow torch and you will have a nice piece of rope at a very low cost.—R. Bullimore.

HAS A VARIETY OF WINTER WORK.

Summer profits depend upon winter preparations. These include keeping as many fall and winter fresh cows as possible, hauling the manure to fields as rapidly as it is made, feeding the separated milk to comfortably housed fall pigs, saving the tools by proper repairing, feeding up all fodder and coarse grain on the farm, and getting everything in ship-shape for the summer campaign.—George W. Rice.

COWS AND HENS DO IT.

I will explain, in a few words, how I keep busy during the winter months, pay expenses, and make a little income. I have a farm of eighty acres, on which we keep twenty-seven pure-bred Holsteins and a few hundred White Leghorn chickens.

We plan to have twelve cows milking the year around, and from these we secure an average of \$200 a month throughout the year. Every morning after the cattle are milked and the barns cleaned, the manure is taken to the fields. I raise all the feed consumed by the herd.

We have two coops of White Leghorn chickens, one hundred and twenty-five in each coop. These coops are cleaned every morning. The chickens are well cared for and they return around \$100 per month for the year. We raise all the feed required for the chickens, including green feed. Each year we hatch about four hundred chickens, from which our laying stock is selected. We get \$1 for the yearling hens in the fall.

This keeps me busy throughout the winter months. I usually work from five in the morning until seven at night. My wife and I do all this work, only hiring at threshing and silo-filling time.—F. A. Beasore.

Poultry

On many farms the hens obtain plenty of grit while on the range, but when housed for winter the grit supply is forgotten. If a barrel of fine gravel has not been saved for that purpose it pays to buy the commercial grit. Hens cannot obtain the proper nourishment from the hard grain and bulky mash unless they have grit to grind it up.

I once visited a flock of hens that were supplied with plenty of mash, scratch grain and green food, but the owner had not been able to go to town for commercial grit for several weeks and the hopper had been empty. The birds were on a board floor covered with straw, so had no chance to dig gravel from the floor, as they often do in earth floor houses. The hens seemed lacking in appetite and vigor.

The ground was frozen and covered with snow, so we could not obtain gravel. But we did find an old cracked earthen jug. This was cracked up by hammering the broken chunks on a chunk of wood. The small square bits of the jug were placed in a shallow pan and given to the hens. As we thought, they were starved for grit. They ate down the grit like corn, and in about five minutes the jug was gone. The example proves the strong craving for grit that exists when hens are deprived of it. It is evidence of the fact that they cannot thrive without it. Before the roads are blocked with snow it always pays to inventory the poultry supplies and be sure there is sufficient grit to keep the hoppers filled.

Cleaning Rusted Rims.

Unless exceptional care is taken every car that uses the clincher rim is liable to damage the tires because of rust inside the rims. This rust accumulates when the car is driven over wet roads, and when it dries it grinds the tire, cutting it through near the rim. The fabric then rots.

When the rims have become rusted they can be quickly and easily cleaned. For rear wheels jack up the car and remove the tire. Take a discarded file and put on a handle, so that it may be used safely. The motor is then started running as slowly as possible, and will cause the file to spin. Set the edge of the file against the rusted rim and as the wheel revolves it will scrape away the rust coat. Better wear gloves during the operation, as a slip would likely mean some skinned knuckles.

This scraping should be continued until the inside of the rim is entirely free from rust, being careful to see that the clincher and its edge get their share. After this operation the rim should be given at least two coats of good rim paint, allowing each coat to dry well before putting on the tire. This should be done at least once annually to get full tire mileage.

We were put into the world to live our lives, not merely to kill time.