MINERALS FOR YOUNG STOCK

BY CHARLES A. MATTHEWS.

Animal nutrition studies indicate that a deficiency of certain mineral elements in the feed of pregnant females is largely responsible for various ailments among the young of our farm animals.

This is said to be particularly true in sections around the Great Lakes. There it often happens that the young of horses, cattle, hogs and sheep are born dead, or weak and hairless or nearly hairless, as a result of goitre. Goitre also occasionally develops in the young after birth.

This is attributable to a deficiency of iodine in the feed or drinking water of the dam during pregnancy, or of the young during earliest development.

The minerals in which the ordinary feed is most likely to be deficient are calcium, phosphorus, sodium, chlorine, and iodine. Nonleguminous forage is particularly apt to be deficient in these minerals, especially when grown on acid soils.

Forage and pasture crops grown on lime soils are generally found to contain calcium and phosphorus in quantities sufficient for normal requirements. Leguminous roughage also usually contains satisfactory quantities of both calcium and phosphorus.

Fortunately, any or all of the minerals required for best results may be easily supplied as supplements to the farm ration.

Calcium may be supplied in the form of high-grade ground limestone, bone meal, steamed bone meal, spent bone black, wood ashes, ground rock phosphate, acid phosphate, or slaked lime. Of these, high-grade ground lime and steamed bone meal are regarded as the most desirable sources of calcium.

The bone meals and rock and acid phosphate are also sources of phosphorus, steamed bone meal being the form most preferred.

WHEN TO USE IODIDE.

Common salt will supply all the needs for both sodium and chlorine.

Iodine may be supplied in the form of either potassium iodide or sodium iodide, the latter form being the cheaper.

Where the ration contains leguminous roughage, tankage, or other feed rich in calcium, there is usually no need for supplying additional calcium, and the same holds true for phosphorus where wheat bran, wheat middlings, soy beans, rice polish, cottonseed meal, tankage or skim milk are fed.

Mature animals, or meat animals, usually do not require mineral supplements. It is the young, growing animal, the pregnant or lactating female and the laying hen that require a greater concentration of minerals in the ration.

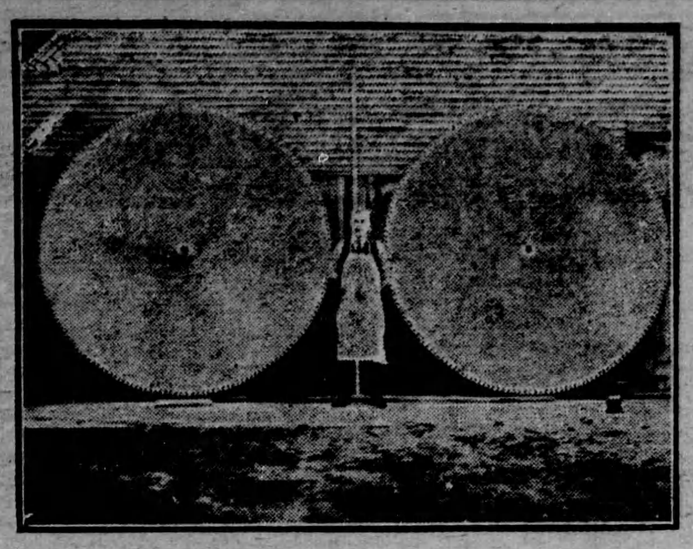
Mineral mixtures are easily made up and need not be expensive. All should contain common salt and a calcium supplement. The following are suggested:

A mixture of equal parts of ground limestone and salt, or of wood ashes and salt will furnish calcium but will be deficient in phosphorus. A mixture of equal parts of steamed bone meal and salt will supply both calcium and phosphorus.

For hogs a mixture composed of 45 parts of ground limestone, 45 parts of steamed bone meal and 10 parts of tankage is said to give excellent results. Hogs that are not on green pasture should always have free access to some simple mineral mixture, or an addition of about 2 pounds of minerals to 100 pounds of dry concentrates.

Iodide is not recommended as an ingredient of mineral mixtures for general use. It is not definitely known just how much iodide is required to prevent goitre in regions where it occurs. A dose of 2 grains of potassium or sodium iodide daily per head for cows, ewes, mares and sows throughout the gestation period is recommended.

Larger quantities may be poisonous, so care should be exercised in administering iodide. A tablespoonful of a mixture composed of 1 ounce of iodide dissolved in 1 gallon of water will contain about 2 grains of iodide. This quantity may be sprinkled over or mixed with the feed.



Henry Disston, of Toronto, has just completed what are claimed to be the two largest saws ever made in the British Empire, measuring 108½ inches in diameter.

The Perennial Border.

Many owners of homes who hesitate to grow flowers on account of the time it would seem to take would find the labor problem largely solved by the growing of perennials. Modern perennials include many of the finest flowers we have and have great decorative value for the homes. Perennials may be grown as the individual plants, but they are better adapted for border planting, along a fence or wall or beside a planting of shrubs and trees which go as a background. A position of full sunshine is necessary for luxuriant growth. In no case should a herbaceous border be planted in the centre of a small lawn. It may flank a walk at the side of a lawn with very good effect. Perennials like many forms of garden plants, require well drained good soil. That is to say, where one may expect a satisfactory crop of potatoes, perennials will usually do well. In preparing for a perennial border, well rotted manure should be deeply dug in. As the plants are to remain where planted for several years, a good supply of manure is needed from the beginning to assure fine bloom year after year. Bone meal lasts well in the soil and should be freely used when preparing for a perennial border. The width of the border will depend largely on the breadth of the lawn. It may vary from three to twelve feet.

The planting of the border is important. The tallest growing kinds of plants should be used for the back. In very wide grounds shrubs may occupy the position next the fence that is to be screened. The first line of perennials should not be closer than eighteen inches from the fence or shrubbery background. The plants should be arranged in groups of three, each group set four or five feet apart, and the individual plants in each clump about twenty inches apart. Line No. 2 should be composed of plants of intermediate height and should stand not nearer than two feet from Line No. 1 in the rear. The clumps here should be planted opposite the vacancies in the back row. Line No. 3 still farther forward, should consist of several dwarf varieties. The arrangement should be similar but correspondingly closer in order that the ground may be fairly well covered when the plants have made their full growth. Line No. 4, which should form the front edge of the border, should be about fifteen inches from Line No. 3, and nine inches from the grass or the walk which it skirts. This row should consist of edging plants of quite dwarf nature, arranged in clumps of considerable size. In the planting it is not necessary to adhere to a straight line for the different rows. These should be sufficiently irregular as to take away all appearance of rows in the border.

In the choosing of plants questions to be considered are hardiness, time of flowering, duration of flowering, and color. There are endless kinds and varieties of perennial plants from which to choose. Mr. H. J. Moore, a well-known landscape horticulturist, has recommended to the Ontario Horticultural Societies a suitable list, having reference to colors, hardiness and time of flowering, as follows: Anchusa (alkaret) varieties, dropmore and opal; colors, gential blue and opal; height five feet; season of flowering, July-August. Campanulas (the bellflowers), latifolia varieties, violet purple, chiefly blue, five feet and less, June-August. Delphinium moerheimi, white, four feet, July. Aconitum fischeri (the aconite), clear blue, three and a half feet, September. Aquilegia (the columbinea), various, two feet, May-June. Michaelmas daisies, purple, two-three feet, autumn. Heuchera mousquetaire, brilliant scarlet, one and a half feet, June-August. Iris, variety canary yellow, two feet, May. Iris pumila, blue, nine inches, April-May. Hepatica, single red and double red, six-nine inches, April. Arabis (rock cress) albida, single and double, white, nine inches to one foot, April-May. Phlox subulata varieties, mauve and other shades, six inches, May-July. Dianthus (pinks), Mrs. Sinkins, white, nine inches, June-July. Helleborus niger, Christmas rose, snow white, one foot, November-December. Campanula carpathica, blue, one foot, June-August. C. Carpathica alba, white, one foot, June-August.

Practically all of these plants can be grown from seed, when a year must be lost before bloom is secured. The seed is sown in rows as is the seed of annual flowers, transplanted and cultivated during the first year in readiness for planting out in the border in the autumn. The plants, on the other hand, may be secured from the grower ready for planting in the fall or spring. The perennial border after planting cannot be left to take care of itself. It must be hoed and raked from time to time similar to any other garden crop. If the cultivation is done sufficiently frequently to keep the soil loose on top, there will be no difficulty from weeds. Nor can the border when once planted be left for many years without replanting. Some of the plants will be much more agressive than others and will have a tendency to crowd out those that are less vigorous. From time to time, therefore, the border should be taken up, the plants divided, the ground refertilized, and pieces of the larger clumps returned to the border. This replanting affords an excellent opportunity for changing the plan and introducing new varieties.—Can. Hort. Council.

The Foster Mother of the World.

The cow is a most wonderful laboratory. She takes the grasses of the pasture and roughage of the field and converts them into the most perfect food for man. In that food there is a mysterious something which scientists have found essential to the highest health of the human race, and which can be found nowhere else. Men have sought for centuries the Fabled Fountain of Youth. The nearest approach to that fountain which has yet been discovered is the udder of the cow. Without her milk children languish, the vigor of the adult declines, and the vitality of the human race runs low.—F. O. Lowden.

One lamp, the mother's love, amid the stars shall lifts its pure flame changeless, and before the throne of God burn through eternity.—N. P. W.

Plums From Stones.

Growers of plums will find a deal of valuable information in the recently published bulletin on "Plum Culture," by the Dominion Horticulturist, which can be obtained by applying to the Publications Branch of the Dept. of Agriculture, Ottawa. Of special interest is a chapter on "Seeding Varieties," which indicates that no part of the country need be without plums of some kind and which can be easily cultivated. After remarking that while many fine kinds of plums are grown in Canada, there is always a possibility of getting something better, the bulletin goes on to say that in the colder parts of the province there is excellent opportunity for developing hardier and improved sorts. All that is probably necessary is to grow seedlings from the stones of the most successful kinds grown in the vicinity or nearest thereto. Stones should be saved from the largest plums from the most productive tree of the variety of which seedlings are desired. If possible these stones should be planted immediately after the fruit becomes ripe and should not be allowed to become dry. Stones can be kept over winter in boxes mixed with moist but not wet sand. The process to pursue, which is called stratification, is to place a layer of sand about an inch in thickness along the bottom of the box, cover this with stones, then place another layer of sand, put more stones on top, and continue until the box is filled, and bury the box outside where there is good drainage or keep in the cellar. The stones should be planted not more than one inch deep and the soil should be kept thoroughly cultivated during the summer. The next spring or the one following, the young trees should be planted about ten feet apart and left to fruit, which they will do in from three to six years.

Plant Trees for Poultry.

Fruit trees for use on the poultry farm are a wise investment. They furnish necessary shade and often produce fruit of considerable quality with less spraying than is needed in the commercial orchard. Large apple trees are quite an asset on the range of the young stock. They furnish fine fresh air roosting places until time to place the pullets in the laying houses.

One of the least expensive portions of the dairy cow's diet is water. It should, therefore, be furnished in abundance at all times, kept pure and clean.

Happy is the man or woman who has some one to believe in him or her.

Grace for Gardens.

Lord God in Paradise,
  Look upon our sowing,
Bless the little gardens
  And the good green growing!
Give us sun,
  Give us rain,
Bless the orchards
  And the grain!

Lord God in Paradise,
  Over my brown field is seen,
Trembling and adventuring,
  A miracle of green,
Send such grace
  As You know,
To keep it safe
  And make it grow!

Lord God in Paradise,
  For the wonder of the seed,
Wondering we praise you while
  We tell You of our need.

—Louise Driscoll.

Move the Colony House.

One of the most common losses in brooding chicks during the spring is from soil infection, resulting from coccidiosis, worms and digestive disorders of numerous kinds.

It has only been within the last few years that the successful poultryman has appreciated the wisdom of changing the range each year and brooding his chicks on clean ground. This is an excellent practice and good as far as it goes, but it will pay all poultrymen to brood in colony houses, using colony brooder stoves, and then at least once or possibly twice during the brooding season move the colony houses to a new clean spot on the range.

When the youngsters are little they are confined close to the house, and throughout their brooding and growing period they have a tendency to lie around the house rather than roam long distances. It is no wonder then that the soil immediately adjacent to the brooder house becomes quickly contaminated.

It is not easy nor possible to cleanse this ground when the chicks are running on it.

It is very easy, however, to hitch onto the colony house with a team of horses or a tractor and move it forty of fifty feet in any direction, simply placing it on a new piece of ground which has not been intensively cropped.

Farm records show that dairy herds in which a portion of the cows freshen in the fall give larger net returns than do the herds kept under similar conditions except that the cows freshen in the spring.

Greatness comes only by growth.

EAST INDIA TIP CAT

Every town-bred Canadian boy knows how to play the time-honored game syled "tip cat." In England, also, this famous sidewalk pastime is vastly popular, and the historians of sport pretend to trace its history back to early Saxon times. Few people, however, are aware that tip cat is indulged in so far East as India, or that the dusky urchins of Bombay and Madras are positive adepts at the game.

In India tip cat is known as "guilli-danda"—that is, cat stick. The little Hindoos or Mahommetans scoop out a small hole in the ground. This hole is known as "gurchi," the cat or peg being "gulli," and the stick to strike with "danda."

Players arrange their turns by a Hindoo version of the familiar "eeny meeny miny mo." Player No. 1 takes the "danda" and strikes the "gulli" (made exactly like our cat) as far as it will go. The opposite player fetches the "gulli," and endeavors to throw it back into the hole, or "gorch." If he does not succeed, player No. 1 scores a point and has another chance with the danda. On the other hand, if he pops the peg into the gurchi, player No. 1 is put out, and the next in order takes his place.

But tip cat is not the only game a knowledge of which our boys share with the lads of India. In the bazaars and public places of all the big cities from Simla to Ceylon, the youthful Hindoo and Mahommetan enters enthusiastically into the excitement of hop scotch. They call it "ekaria dukaria," which is certainly a more imposing title.

The court is marked out into seven squares, each of which has a name, as follows: Ekaria, dukaria, tikaria, kachkolan, sustanawa, chotka and barka. A round piece of tile (khapollo) is thrown successively into each of these squares and kicked out by a player hopping on one foot.

In passing the fifth and sixth squares (sustanawa and chotka), the player has to jump straight in and then straight out again from the chalk-line without treading on any of the intervening squares. When the tile has been kicked out of the last square (barka) without any rules having been broken, the player scores a point.

"Ekaria dukaria" is a most absorbing game to the little Indian boys, and even the grown-up folk, squatting at their shop doors take an interest in it. Indeed, it is by no means uncommon to see a grave and reverend merchant temporarily lay aside his long pipe, and step down into the street to illustrate for his boys' benefit a knotty point in the theory or practice of the India hop scotch.

A form of blindman's buff is also played in parts of India, and, hunt the slipper is popular—an untwisted turban being used in lieu of a slipper. Games of marbles the writer has also seen in full swing in Madras and Lucknow, while leapfrog is not unknown in the northern parts of India. But the pet sports of the Hindoo boy are "ekaria dukaria" and "guilli-danda," or, as we could say, hop scotch and tip cat.

RHUBARB WITH VARIATIONS

Rhubarb, that good spring fruit our grandmothers set such store by, is one of the most valuable of plants for its spring tonic effects. Few housewives realize its possibilities as a dessert; they assign it to the saucepan without any attempt at further improvement, unless it is the making of a simple pie. The following ways will help to vary its use:

Boiled Rhubarb Pudding—To half a pound of chopped rhubarb add half a cup of finely chopped suet, five cups of sifted flour, two teaspoons of baking powder, one cup of sugar and enough milk to make a stiff batter; tie in a floured cloth and boil three and a half hours. Serve with hard sauce.

Rhubarb Dumplings—Stew rhubarb which has been cut into inch lengths in a little more than half its weight in sugar and just enough water to keep from burning. (It forms plenty of juice when it begins cooking.) Make a batter of two cups of flour, half a teaspoon of salt, two teaspoons of baking powder, a scant cup of sweet milk, and drop this into the boiling rhubarb by spoonful. Serve hot either with or without cream.

Rhubarb Betty—Place a layer of cooked rhubarb in a well buttered baking dish, then a layer of bread crumbs (either white or brown bread), sprinkle with brown sugar and cinnamon, and repeat until the dish is full. Bake in a moderate oven until brown and serve with plain or whipped cream.

Rhubarb Shortcake—Make a shortcake as for strawberries or peaches, but use for the filling the following mixture: Rhubarb which has been stewed and sweetened to taste and mixed with chopped citron or candied orange peel. Garnish the top with whipped cream.

Rhubarb Jelly—Cook one pound of chopped rhubarb in a cup of water and one of sugar until tender. Have ready one tablespoon of gelatine soaked in half a cup of cold water, to which has been added either four tablespoons of lemon or orange juice and some of the grated rind of whichever fruit is used. Combine and pour into a wet mold. Serve when firm with whipped or plain cream or a thin custard.

Rhubarb Tarts—Cook half-inch lengths of rhubarb, without peeling (if very young), and without adding water. Sweeten to taste and flavor with grated orange peel. Add to each cup of rhubarb the beaten yolk of an egg. Cook until thick and fill into pastry shells. Put a spoon of stiffly beaten and sweetened whites on the top of each tart and set in a moderate oven to brown.

Rhubarb Ice Cream—To three pints of chopped rhubarb add enough water to cover and cook until tender. Put in two cups of sugar and stir until dissolved, then strain through a fine sieve. When almost cold add one pint of cream and more sugar if desired, then freeze.

Rhubarb Salad—In some menus a fruit salad takes the place of dessert. To prepare such a salad from rhubarb, soak three tablespoons of powdered gelatine in half a cup of cold water until soft, then add two cups of boiling water and stir until the gelatine is dissolved. Stir in four tablespoons of lemon juice and half a cup of sugar.

Pour into a square granite pan to the depth of about an inch and set on the ice to harden. When it begins to congeal add a pint of chopped rhubarb, which has been steamed until tender and sweetened slightly, and one cup of chopped nuts. When cold and hardened cut into three-inch squares and serve on any kind of salad green with a mayonnaise dressing. A white salad dressing, excellent for this salad, is made by adding half the whipped white of an egg or half a cup of whipped cream to the usual mayonnaise mixture (made with lemon instead of vinegar).

Rhubarb Shrub—A delicious drink may be made with rhubarb. Cut into small pieces ten stalks of rhubarb, mix it with four ounces of chopped raisins and six cups of water and let simmer for an hour. Strain and add two tablespoons of lemon juice and serve with shaved ice.

Preservation of Eggs.

At the St. Anne de la Pocatiere, Dominion Experimental Station, Quebec Province, an experiment has been tried to ascertain the best method of storing eggs for winter use. The experiment included eggs stored in one-dozen cartons, without treatment; eggs wrapped in tissue paper and stored in one-dozen cartons; eggs dipped in boiling water and stored in one-dozen cartons; eggs dipped in boiling water and wrapped in tissue paper and stored in one-dozen cartons; eggs placed on small ends in earthen jars and covered with salt; eggs placed in earthen jars and covered with water glass solution and eggs placed in earthen pars and covered with lime water. The eggs stored were new laids, infertile, sound in shell and clean and were stored from July 15 to December 15, 1923. They were placed in a cellar on a cement floor, the tempreature varying from 40 to 50 deg. F. This first experiment would indicate that the use of commercial water glass solution (obtainable at most drug stores) and lime water, which can be home-made, are the two best means of preserving eggs for a fairly long period. The contents of the eggs in the lime water were just as good as those in the water glass solution, there being some difference in the appearance of the shells. Salt gave poorer results, but can be used advantageously for short periods. Eggs wrapped in tissue paper followed in results, but those dipped in boiling water and unwrapped turned out poorer than any.

They Also Serve.

God doth not need
Either man's works or His own gifts; who best
Bear his mild yoke, they serve Him best; His state
Is Kingly; thousands at His bidding speed,
And post o'er land and ocean without rest;
They also serve who only stand and wait.

—Milton.

How She Knew.

A city-bred girl married a young farmer. As her husband came into the house one day, she exclaimed: "Oh, John, I found four ducks' eggs among the two dozen you brought in this morning."

"Ducks' eggs," said John. "How do you know they were ducks' eggs?"

"Why," she answered, "I put them in water and four of them floated.'

Put Her Ring on the Hook.

"When a girl starts fishing for a proposal what should I do?"

"If you love her, put herring on her hook, of course."

A FLATTERING AFTERNOON GOWN.

Navy blue twill or heavy silk interprets this delightfully fresh afternoon gown. The side plaits give a width to the narrow silhouette which is always welcomed by the active miss and small woman. There is a freshness about the grey set-in front of contrasting material, while the plaited frill about the neck and sleeves is always youthful and flattering to the small woman. Very attractive is this model, No. 1040, made in brilliant-colored tissue or gingham. Hemstitching gives a pleasing trimming for the set-in front. The gathered frills are much more useful when the dress is made of wash materials. Cut in sizes 34 to 42 inches bust. Size 38 requires 4½ yards of 36-inch material.

HOW TO ORDER PATTERNS.

Write your name and address plainly, giving number and size of such patterns as you want. Enclose 20c in stamps or coin (coin preferred; wrap it carefully) for each number, and address your order to Pattern Dept., Wilson Publishing Co., 73 West Adelaide St., Toronto. Orders filled by return mail.

Rhubarb Custard.

For each egg use one cup of stewed rhubarb which has been put through a sieve. Add the rhubarb to the well beaten yolks, sweeten to taste, then beat in the whipped whites. Put the whole into a buttered baking dish and bake until firm and it shows signs of cracking. Serve when cold.

Blow up the stumps and stones, or you are likely to blow up when the plow hits one.