in treatment, though much in preventive measures which are not expensive, do not call for much trouble, and are as follows: When the cow is due to calve, have her in a clean place, with plenty of fresh bedding. The calf should be received on clean bedding. Tie the navel cord 11 to 2 inches below the navel with a disinfected cord, and disinfect the navel string immediately by holding under it a dish containing a 15-percent. solution of formaldehyde, or a 5-per-cent solution of carbolic acid. Repeat until the navel cord all shrivels up. This, or similar means of disinfection, is also the treatment recommended for prevention of navel-ill or joint-ill in foals. In each case the necessary material should be provided beforehand, so that no time may be lost in applying it. The sooner it is applied, the better. as delay is dangerous.

## Soiling Crops in Massachusetts.

A question which crops up continually is that of the wisdom of growing green fooders as a supplement to summer pasture. Almost everyone realizes the advantage it would be to the dairyman to have his cows well filled with green fodder every day. The fact that there is a period in most localities every summer when pasturage lacks succulence, and generally is deficient, is also well known, but the labor connected with the growing and feeding of soiling crops is a bugbear which hinders many from doing what they tacitly admit it would be wise to do. The whole question is one which seems settled every time a learned lecturer discusses it in public, and becomes an open one again, because practice so rarely follows such preaching.

Some fresh light is thrown on the subject by a bulletin recently issued by J. B. Lindsey, Ph. D., of the Massachusetts Agricultural Experiment Station, Amherst, Mass., entitled "Green Crops for Summer Soiling "These, in the order in which they can be fed, are: Rye, wheat and sand vetch, alfalia, clover, oats and peas, Hungarian grass or barnyard millet, corn, soy beans, Early Amber sugar cane, and barley and peas, sown late. The writer of the bulletin is not an advocate of thoroughgoing soiling alone. He believes that animals should receive a portion of green food during the growing season. But if this portion can be secured from pasturage, he is inclined, from the standpoint of economy, to make up the balance with hay and crain, supplementing, more or less, with clover and fodder corn. Dairy animals. if possible, so he thinks, should be pastured during five months of the year. The open air, sunlight, exercise, and the change from dry feed to succulent grasses, are most desirable and beneficial. But drouths occur, pasturage is limited. and some extra feed is usually a necessity. In a dairyman is without pasture he may bine soiling with hay and grain feeding. He does not consider it wise to feed more than 40 or 50 pounds of coarse green feeds daily, preferring to make up any shortage with dry fodder. Succulent feed alone tends to keep stock in thin condition.

He also does not favor silage as a summer feed. whenever other forage can be economically supplied. He believes that the acid of silage is objectionable, if fed continuously. From the standpoint of health, it is preferable, he thinks, to suboly the animals during the summer with freshly grown green forage, and leave the silage for the long period during which other more desirable green fodder is not to be obtained.

Hearty congratulations will go to Mr. Tait from all over the country, on his success in bringing about a tariff agreement with Canada. If there is anything a trifle more barbaric than tarins themselves, this tariff wars. The interests of Canada and the United States are so interwoven that tariff hostility must have done incalculable harm on both sides of the border. In just such negotiations as this. Mr Tait is at his best. His personal charm, his tact, his amiability, his natural bent toward compromise, all stand in good stead, and in this case serve the country, as well In no field of diplomacy has our record been marred by such gress sympadaty as in our negotiations during man do bio with Canada' - The Nation

have our remed es and the cuttle ger-mally have the live. In this neighborhood we rid than slaked lime strinkled on the cuttle script. A fective. It seems to next mate notice the sest hair right down to the skin unique to see fecation seems to be the fate of the names to us cheap reasily put on a distribution to the fate of the names to be distributed.

## THE FARM.

## Root Crops: Value and Cultivation

When the ensilage method of storing and keeping corn came into vogue, a few years ago, it was hailed by many as furnishing a succulent food that would entirely take the place of roots as a winter food for stock. Many, for various reasons, had never heartily engaged in the growing of roots, and some of those who had were ready to welcome a change, especially if it promised to involve less manual labor. But, as time has gone on, the idea that silage was a complete substitute for roots has steadily weakened. It has been found that stock thrives better when both are fed in moderate quantities than when a larger amount of silace is given alone.

There are many indications of this change of 1908 Report of the Ontario Agricultural College, Guelph, Prof. Zavitz draws attention to the increased acreage of mangels in Ontario. In 1882 there were in the Province 15.791 acres of mangels; in 1895, 34,383 acres, and in 1908 the area had increased to 67,937 acres. . The Farmer's Advocate" readers will have noticed that, in most of the best barn plans entered for competition last winter, provision was made for the stor age of both roots and silage. John Campbell, Woodville, in an address before the Ontario Fairs Association, at Toronto, on "Preparing Sheep for Exhibition," speaking of the importance of different foods, gave emphatically the first place to Swede turnips, second to clover or alfalfa. and only third to mixed grains. And, not to multiply authorities, J. H. Grisdale, Ottawa, at the Dairymen's Convention, in Belleville, speaking of roughage for the dairy cow, said: "There ought



Sowing Roots.

two is ideal. An unexcelled roughage mixture for an average stied cow is 50 pounds slage 25 peaks roots and 5 peaks straw, per day. This is a larger quantity of silage than we recom-

The variety of roots to grow depends on the locality, some and the class of stock to which they are to be few. In the Maritime Provinces corn, and mangers do not succeed extra well, conceeds that it contains these in the cushes paracre. That is the cass of roots to grow there ever though a in of them are fed policiously to miliant cows. In equation in the other hand

of special form and color, and receive similar cultivation and treatment.

Mangels grow very well on sod, but the plow ing should be done the previous year, and only surface cultivation given in the spring. Indeed, a mellow clover sod may, by proper autumn treatment, be put into first-class condition for any crop of roots, and this method in rotation is to be commended. But roots of most kinds commenly follow a crop of grain, and in that case the ground is generally plowed in the fall, and again in the spring. However the work is done. land intended for roots should be brought to a fine tilth for a considerable depth. should be liberal, if good crops are to be secured The old style of applying manure in the fall, and plowing it under lightly, has gone out of fashion largely, but fine crops of roots were grown and are still grown under this method. Manure may be applied in the fall, winter or spring; the main sentiment regarding the value of roots. In the thing is to get it there and well incorporated with the soil. The attempt should be made to have 12 to 15 two-horse loads per acre.

From the first to the twenty-fourth of May is an ideal time in which to sow mangels, sugar beets or carrots, though they may safely be sown earlier. After the land has been thoroughly prepared, drills about 28 inches in width, and not too high, may be made with a double or singlemould plow. It is well to sow seed the same day as drills are made. Mangels and sugar beets require 4 or 5 pounds of seed per acre, and it should be sown at a depth of an inch to an inch and a half. Two pounds of carrot seed per acre is sufficient, sown at slightly less depth. Rolling the drills with the field roller the day after being sown, or later, if not dry enough, compacts the earth about the seed, and promotes good germination. Mangels may be sown on the level, and the crop be just as good as if in drills, though the work of thinning is made more tedious.

It is well to have the land intended for turnips plowed, harrowed and rolled a few weeks before they are to be sown. This gives weed seeds a chance to germinate, and insures their destruction by the after-cultivation. The texture of the soil is also improved by lying quiet for a time. Before sowing, which may be done any time from the 1st to the 20th of June, the land should be cultivated deeply, worked fine, and drilled as described for mangels. One and a half pounds of turnip seed per acre is quite enough, if it were not for the turnip fly; but, because of its ravages, two pounds, or over, are recommended generally Seed should be put in about an inch in depth. The ideal condition of the soil for sowing turnips is just when it has become dry enough to work after a good rain. It then pulverizes easily, and, being damp enough, the seed springs at once, and plants are up before a crust has formed.

As soon as the line of plants in the root field can be clearly distinguished, it is well to start the cultivator. Thousands of unseen weeds are thus killed, and the growth of the crop is stimulaten. Thinning or singling should be begun when the leaves are an inch in width. With practice, this work may all be done with a thinning hoe should be left about 12 inches apart; carrots about half that distance, or less,

After-cultivation-two or three times with the cultivator, and one or two hoeings-should be given so that the surface soil may be kept loose and , and the weeds thoroughly subdued, until the crowth of leaves interferes with such work. The more careful and thorough the cultivation, larger the crop and the cleaner the field will be.

## Results of Fertilizer on Potatoes.

It was in the spring of 1909 that I first enered into correspondence with the Dominion Agri-Altural Offices of the Potash Syndicate, Previous supplementing barnyard manure with commercial ertilizers. Through the kindness of the Syndithe war fertilizers on my own potato crop. I received do pounds sulphate of potash, 80 pounds of soda, and 240 pounds acid phosphate, vierimental plot was one acre in extent. It divided into three sections. Section No. 1 and no fertilizer; section No. 2 received a new of 120 pounds of acid phosphate and ands with have of potash, mixed and broadire to so the planting of the potatoes. The ratio stages of growth it received one is reared with 120 pounds acid phos-

·lded at rate of 154 bushels  $72 \times 10^{-10}$  at rate of 154 bushels  $7 \times 10^{-2}$ , 195 bushels, and section APRIL

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