

hages) If manure is put on the year previous crop year, the plants will get a much earlier start, and a better crop will result, but there is danger of some loss through leaching.

"If large quantities of nitrate of soda are used," said the professor, "there is a danger of the soil becoming sticky. As a means of counteracting this, I should advise the use of acid phosphate. Superphosphate is recommended for all soils except acid soils. In soils of this nature, the Thomas phosphate is recommended."

The speaker advocated the use of potash for all crops. Muriate of potash, however, should not be used for potatoes, beets or tobacco. Chlorine prevents the sugar in the beets from crystallizing and makes potatoes more waxy. Use the sulphate of potash.

### Anthracnose of Beans

Prof. W. Lockhead, Macdonald College, Que.

Wherever beans are grown a disease called "Anthracnose" usually appears as large dark brown spots on the pods. Occasionally the damage is considerable, on account of the injury to the seeds within the pods, and the rapid spread of the disease to healthy plants.

The cause of the disease is a fungus which lives in the tissues of the bean and sends out slender threads among the cells for the purpose of getting food for its own growth. It also produces spores on the surface of the "spot", by means of which the disease spreads from plant to plant during the growing season. This fungus winters over in the bean seed. This fact accounts for the early appearance of the disease on the stems and leaves of young seedlings which are often killed. From the leaves and stems of the seedling plants the fungus threads make their way to the large leaves and to the pods.

For many years the only treatment consisted in spraying the plants at intervals with Bordeaux mixture. It was admitted, however, that this treatment was unsatisfactory, for the disease appeared in spite of careful spraying. Later it was thought that spraying of the seeds before planting, with formalin solution or other fungicide, would be effective in preventing this disease, but this treatment also was not successful.

Later still several growers hand-picked the beans that showed no signs of "spot" for planting, hoping thereby to get plants free from disease, but this method like the others did not keep away the Anthracnose.

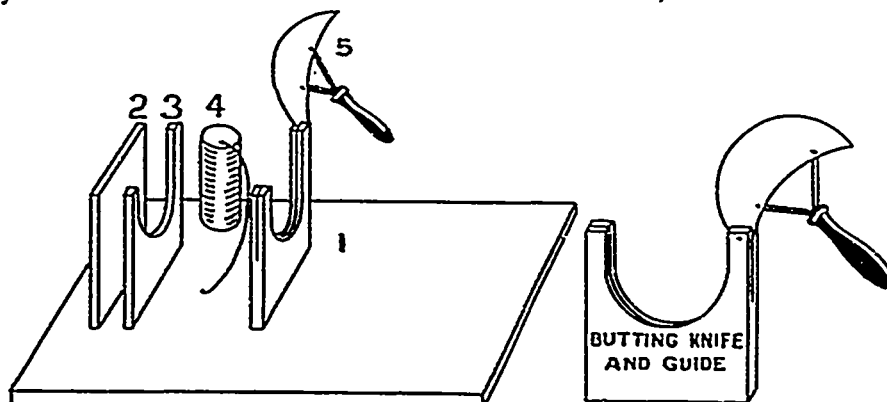
As a result of these failures, and of a microscopical study of diseased pods and seeds, it was concluded that diseased pods contained diseased beans, whether the disease was visible or not, and that the fungus rested within the seed at time of planting. Thereupon, experiments were conducted at Cornell University by

Prof. Whetzel to test if beans taken from clean pods would develop healthy plants. So far as the experiments have gone, very satisfactory results have been secured, but it is necessary to spray with Bordeaux during the season to prevent infection from spores blown into the garden or field from adjoining infected areas.

The best method, therefore, of growing beans free from Anthracnose is to select the seed beans from pods that show no signs of disease, and to spray with Bordeaux at intervals during the growing season.

### How to Grow Spinach

One of the most popular greens for table use in spring and early summer is spinach. It is easily grown and should be found in every farm garden. The seed may be sown in hotbeds or cold frames early in spring or outdoors as soon as the ground can be worked. It is also a profitable crop to grow for market. The earliest spinach of all may be had by sowing the seed in the fall. A market gardener near Peterboro, Mr. Charles Kitney, who grows about half an acre of this crop each year, and who recently called on THE CANADIAN HORTI-



An Asparagus Buncher That May Be Made Easily at Home

This illustrates a handy device. Both hands may be used to arrange the Asparagus quickly. Any sized bunch may be tied. The cutting knife never has to be looked for and the twine always in at hand. The diagram was furnished by Mr. W. J. Jansier, Harrie, Ont., who describes it as follows: 1. Base board, 11 inches thick, 11 x 18 inches square. 2. Head board or header, 1 inch thick, 5 x 7 inches square. 3. Receiver, same size as header, hollowed well to hold Asparagus. 4. Twine holder, (empty baking powder can) fastened to base by screw through bottom. 5. Butting knife, second-hand hatch knife, well sharpened. 6. Butting knife, guide and receiver, 1 inch thick, 6 by 7 inches, with slot ripped to receive and guide butting knife. Butting knife is placed 6 inches from header. Nos. 2, 3 and 4 are mortised into base board. Buncher may be placed on table or bench when in use and hung on wall when not.

CULTURIST, gives his experience with spinach as follows:

"I sow the seed broadcast about the last week in August. The best variety is Large Flanders. The ground should be mulched with straw or coarse manure. This helps to protect the plants and to drain off the surface water. In spring it is not necessary to weed or cultivate this crop. It grows rapidly. The first lot for market usually is cut about the first of May. The crop will last about one month. Spring-sown spinach comes in when this is done and lasts until early cabbage. The early spinach sells from seventy-five cents to one dollar a bushel. The spring-sown crop brings less money but is more plentiful.

"To grow spinach successfully," concluded Mr. Kitney, "a suitable location

must be chosen. It will grow best on the southern side of a hedge or fence where it will be protected. The snow should drift and lie on it. Spinach will stand about the same extremes of temperature as fall wheat."

### Separating Seed from Tomatoes

A. McMeans, Ontario Agricultural College

The usual method of separating seeds from the pulp of tomatoes, where good sized or large quantities are to be done, is to place the tomatoes in a water-tight barrel and cover them with water. In a few days, it will ferment and the pulp will come to the top, and the seeds go to the bottom. If it is stirred thoroughly, it will assist materially in separating the seeds.

Some growers prefer to squeeze the seeds and seed pulp in the barrel, throwing away the skin and outside flesh of the tomato. This seems a desirable way as, in washing the seed after the separation has been made, the seed pulp will all pass through the screen. The screen for washing the seed can be made from ordinary window wire screen, by making a box with sides, four or five inches high,

and using the wire for the bottom. If you have a hose and force pump or other water supply, place the pulp and seeds in the screen, use the hose, and it will wash the seeds thoroughly clean. After cleaning, they should be dried promptly and thoroughly, and stood in a cool dry place.

A little nitrate of soda will stimulate vegetable crops into rapid growth in short time. It is available for absorption as soon as it comes in contact with the roots.

While sandy soils produce the earliest and smoothest vegetables, and are easily tilled, they are extremely leachy and require liberal applications of manure to maintain fertility.