

In the Field of Agriculture

BLIGHT IN THE SOIL

Rotation of crops is necessary to prevent transmission of several plant diseases, says a bulletin of the New York experiment station. Cabbage should not be planted the second year where the first season's crop has shown much clubroot, and potatoes should not follow potatoes where scab has prevailed, nor where fusarium wilt and its accompanying tuber rot have been destructive.

One of the most destructive potato diseases in many states is late blight, with the common rot that follows it; and questions relating to transmission and control of these troubles are exceedingly important. Does this fungus survive the winter in the soil and make a blighted field of one year unsafe to use the next?

Most authorities hold that the fungus causing these two troubles does not over-winter in the soil; and that there is no more liability to blighting and rotting on a field thus affected the year before than on one free from the disease. Recently two authorities, one in England and one in America, have advanced the opposite view and advise against planting potatoes on soil where blight has been prevalent.

To test the liability of such transmission, the botanist of the New York agricultural experiment station has carried on careful tests in two seasons; and finds no evidence that the fungus can survive the winter in the field, in central New York, at least. The results, being negative, do not prove that the late-blight fungus can not remain alive over winter in the soil, but they make such persistence appear highly improbable.

It would seem unnecessary, then, to change the location of the potato

crop to avoid this disease; especially as we know that thorough spraying will control both blight and rot and will increase the crop enough, taking one year with another, to make this a highly profitable regular practice in potato growing. The spraying of late potatoes should never be neglected.

IRRIGATING THE GARDEN

With a small garden handled intensively a conservative amount of irrigation will always prove profitable, says the Indiana agricultural experiment station. There is rarely a season when a small quantity of water applied intelligently during a dry period will not increase the yield and quality considerably and in some instances prevent complete failure. In some homes there is no available water for this purpose, but with the advantage of pneumatic tanks and water systems in our country dwellings sufficient water can easily be provided to irrigate a small garden three or four times during the summer months when dry weather is causing injury.

There are three methods of applying water—sprinkling from overhead pipes, surface applications or flooding by allowing the water to spread by means of furrows and sub-irrigation. The sprinkling or Skinner irrigation system as it is commonly called is well adapted to home garden conditions. A lead of one-inch galvanized pipe is fitted with a small nozzle every two feet on a straight line on one side of the pipe. The pipe is extended across the garden on wooden supports from four to eight feet above the ground. It is then connected with water under pressure, and as the water passes through the

small nozzles it is broken up into a fine mist which moistens the soil gradually and does not cause it to pack or bake. When a certain strip of land has received a sufficient amount, the pipe is turned until the water is thrown in a new position. With ordinary city water pressure a strip sixteen feet wide can be irrigated in this manner without changing the pipe and support to a new place. A good length of garden hose can be used to carry the water from the hydrant to the pipe as the latter is changed and one length of pipe can be made to answer the purpose. With this system the water can be applied at any time during the night or day. If one has water under pressure at hand, the cost of installing and operating will be very low. A piece of pipe of sufficient length to extend across the garden, a nozzle costing five cents, for every two feet in length of pipe, a cap and three or four couplings and wooden supports make up the outfit. After the connections have been made, the water is turned on and the apparatus is in working order.

Surface irrigation by flooding the land may be practiced but will not prove satisfactory in the hands of the amateur as the above method. The water is applied to the surface by means of furrows and allowed to percolate into the soil until it is moistened to a depth of four to eight inches. Sub-irrigation is carried on by laying three, or four, inch tile twenty inches below the surface with a fall of one inch to the hundred feet.

In all irrigating systems the amount of water to apply can only be determined by experience with the type of soil used. A general rule to follow is to water thoroughly but not often. Following the application of water the land should be cultivated as soon as it is dry enough to prevent the formation of a surface crust.

WHY NOT A FEW SHEEP

A few sheep on the average farm, if properly cared for, will give good financial returns. A farmer who is not familiar with sheep husbandry should start with a small flock and as his number grows his knowledge of sheep management will increase. The profits derived from the sheep business, the Nebraska college of agriculture finds, are largely determined by the shepherd's knowledge of the industry. Sheep are sometimes called the plant scavengers of the farm. They will thrive on more kinds of weeds than will any other domestic animal. Sheep prove invaluable in cleaning weedy pastures, fence corners, and in removing brush. Sheep can also be used to good advantage in utilizing products which would otherwise go to waste, such as the scattered heads and volunteer growth in the stubble field, crab grass, and the lower leaves in the cornfield.

SOIL MOISTURE


Summer tillage has been the most effective method of storing water in the soil, but even by that method only 10 to 33 per cent of the rainfall of the season has been stored, according to a recent bulletin issued by the North Platte station of the Nebraska experiment station. The amount of water stored varies with the amount and distribution of the rainfall during the period covered by summer tillage. Moisture from light

rains is soon lost by evaporation. On the other hand, in very heavy showers a great deal of water runs away.

Storing moisture in the soil before seeding the crop is a safeguard against drouth, but it has not been found possible to store enough water in the soil before seeding to insure a crop without subsequent rains. Stored moisture sometimes causes

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