MOST of our vegetable crops are subject to attack by fungus or bacterial parasites which cause disease. Preventive measures are the most important in combating ills of this nature. These may consist of providing unfavorable soil conditions for the disease, as in the case of cabbage clubroot, or disinfection of the “seed” as practised for the control of scab of potatoes. Other measures are: the application of protective sprays, which kill the spores of disease organisms when they germinate; rotation of crops; planting disease-resistant varieties; and the avoidance of material carrying spores of disease, such as manure containing parts of diseased plants.

*Bordeaux mixture* is the standard fungicide. The formula which calls for four ounces lump lime, four ounces copper sulphate (bluestone) and three gallons of water is the one most commonly used.
PLANT DISEASES

It is made by dissolving four ounces of bluestone in an earthenware or wooden vessel in one and one-half gallons of water. The lime is slaked in another vessel by adding water gradually until it forms a mixture of a milky consistency. Add more water to make one and one-half gallons and strain through cheese-cloth. After it has been strained it should be thoroughly mixed with the copper-sulphate solution and used immediately. Bordeaux mixture made in this way will not keep, but should be applied the same day. Stock solutions of copper sulphate and lime will keep indefinitely if they are not mixed together.

Liver of sulphur (potassium sulphide) is valuable for spraying plants affected with mildew. Use one ounce dissolved in three gallons of water. This solution discolors paint.

The following are some of the common diseases affecting vegetable crops:

Beans are attacked by anthracnose. It causes dark-colored, sunken spots to appear on the leaves, stems, and pods. It frequently penetrates to the seeds. Infected seeds should never be planted. It pays to look over all beans that are to be used for seed and destroy all that are discolored.
WAR GARDENS

Never work among the bean-plants when they are wet, as the disease, if it is present, is easily spread by this means.

Beets are subject to a leaf-spot. This causes small, round, dead spots to appear on the leaves. Bordeaux mixture applied as soon as the spots appear and at intervals of one or two weeks will check this disease.

Cabbage.—Clubroot is a disease which causes the roots of cabbage, cauliflower, kohlrabi, and allied plants to become swollen and deformed, and prevents them from functioning properly. If it is not noticed at transplanting-time the first indication of its presence is the sudden wilting of the plants. All affected plants should be destroyed. The seedbed and that part of the garden where the cabbages are to be planted should be limed two or three months before planting. Use between fifty and sixty pounds of air-slaked lime on a plot twenty by twenty feet, and thoroughly mix it with the soil.

Corn.—Corn smut usually appears as swellings, covered with a silvery membrane, on the tassels or ears. These break open later and disclose the masses of dark-colored spores. The swellings should be cut off and destroyed before they burst.

Cucumber.—Anthracnose, angular leaf-
PLANT DISEASES

Spot, and downy mildew are diseases attacking the leaves of cucumbers which can be controlled to some extent by frequent spraying with Bordeaux mixture. This should be applied as soon as the diseases are noticed and repeated at intervals of one or two weeks.

Peas are affected by a mildew which shows itself on the leaves and pods as a whitish mold. The plants should be dusted with powdered sulphur, or sprayed with potassium-sulphide solution to which resin fish-oil soap has been added to make it stick to the leaves.

Potato.—Two important diseases affecting potatoes are scab and late blight. The former is a disease which lives in the soil and is also carried over on infected potatoes. It shows itself as scabby spots on the tubers. Seed potatoes can be disinfected by soaking them, before they are cut, for two hours in a solution of one part Formalin to two hundred and forty parts water. This treatment will not prevent scab if the soil is already infected. An alkaline soil favors the growth of this disease.

Late blight appears late in the season and causes the leaves to blacken, become watery, and decay, often accompanied with an offensive odor. The disease also penetrates the tubers and renders them unfit for storage.
purposes. Spraying with Bordeaux mixture is practised as a preventive measure. It should be applied when the plants are six inches high, and repeated at intervals of about ten days until the crop is mature. Crops can be obtained without spraying, but Bordeaux mixture may be considered as a form of insurance. Lead arsenate may be added to the Bordeaux mixture if potato-beetles are present.

**Tomato.**—*Tomato leaf-spot* is a disease which causes dark-brown spots to appear on the leaves. The areas attacked shrivel and die. Spray with Bordeaux mixture.

It is just as important to apply remedial or preventive measures early in the case of diseases as it is in controlling insect pests. Fine mist-like sprays should be used as recommended for applying stomach poisons, and for the same reason.