

Not only is steaming a very effective means of controlling plant diseases but it has also proven effective as a means of hastening the development of the plants. In some cases the plants grown on steamed sections, of the same bed, were ready for transplanting from 5 days to 3 weeks earlier than plants grown on unsteamed sections; and the plants grown on the steamed sections were more robust and thrifty than those grown on the unsteamed sections of the bed.

Formalin is the most satisfactory chemical for sterilizing plant beds. The formalin treatment consists of sprinkling the beds with a solution of one part formalin to 50 parts water at the rate of $\frac{1}{2}$ gallon of the solution per square foot of bed. This should be put on in two applications 24 hours apart. After each application the beds should be covered well to keep the fumes of the formalin in. About 24 hours after the second application the beds should be uncovered, and as soon as they are sufficiently dry the soil should be loosened up again to permit the fumes of the formalin to escape. The beds should not be seeded for several days after this treatment or until after the fumes of the formalin have disappeared.

Two serious objections to the formalin treatment are its failure to kill weeds and the waterlogged condition in which it leaves the soil.

The frames should be placed around the bed immediately after sterilizing. These should be at least 18 inches wide at the back and 12 inches wide at the front, and be so placed that the lower side faces the south. Good, tight frames which will prevent the access of cold air are very important in helping to force the plants.

Seeding.—For early plants, the beds should be seeded about the 10th of April with well-cleaned, home-grown seed.

Most growers seed their plant beds too heavily instead of too lightly; and while it is desirable to strike the happy medium in this operation, the thinly seeded bed is to be preferred to one which has been too heavily seeded. It is in the thickly seeded beds, due to the crowded conditions, that the most trouble from the damping-off fungus and other plant bed diseases is experienced; and the plants from such beds are generally too long and spindling to stand the shock of transplanting well. The greatest objection to thinly seeded beds is that the plants grown thereon are too short and stocky to be handled to the best advantage with the transplanting machine. With seed which has been well cleaned and which gives a germination test of about 80 per cent, one-seventh of an ounce (a slightly heaping teaspoonful) to each 100 square feet of bed will be found satisfactory. For seed giving a higher or lower germination test the amount sown should be regulated accordingly.

Sifted wood ashes is about the most satisfactory medium to use in sowing the dry tobacco seed. The use of corn meal or similar materials for this purpose is objectionable on account of the moulds which afterwards frequently appear on the bed and which grow on these materials.

Sprouting the seed.—Under some conditions a few days may sometimes be gained by sprouting the seed before it is sown. If this is done, the seed should be soaked only until the seed coat bursts and the tiny white sprout appears. Then it should be sown immediately. Soaking the seed until long sprouts appear is very objectionable. A large number of seed are killed in this way and it is difficult to obtain straight seedlings; and a crooked plant is a source of trouble all through the season.

Two serious objections to sprouting the seed are the difficulty of sowing such seed uniformly over the bed and the danger of killing a large percentage of the germs.

After the bed has been seeded it should be well firmed and sprinkled with water.