

CONNECTICUT  
**AGRICULTURAL EXPERIMENT STATION**  
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**BULLETIN NO. 1 OF THE TOBACCO EXPERIMENT STATION**

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**Condensed Recommendations**

FOR THE

**Control of Wildfire**

January, 1922

Notice to Growers:

If you wish to receive future bulletins regarding tobacco, please send your correct address to the Station at New Haven or to the Association.

## Condensed Recommendations for the Control of Wildfire

In this circular, only recommendations for control of the disease are given without reference to the experimental data which have led up to the conclusions. For these, the various bulletins of the Connecticut and Massachusetts Stations may be obtained by writing to the Director's Office, Connecticut Agricultural Experiment Station, New Haven, Conn., or the same, Massachusetts Agricultural Experiment Station, Amherst, Mass.

### SEEDBED

1. *Seed Selection.* If possible, save seed only from disease-free plants, and if in doubt, sterilize the seed.

2. *Seed Sterilization.* Sterilize the seed either with formaldehyde or corrosive sublimate. Occasionally some little difficulty has been met in using formaldehyde, due to para-formaldehyde effects resulting in low or delayed germination, but with care the method can be used successfully. According to Fromme of Virginia, the corrosive sublimate method is to be preferred, as no seed injury has ever been noted from using this substance. Both methods are given below:

a. *Formaldehyde.* "Soak the seed for fifteen minutes in a solution made by adding one fluid ounce of formaldehyde (commercial strength) to a pint of water. Stir the seeds all the time that they are in the solution. At the end of the time, cover the pail or jar with cheesecloth and wash in running water, or wash in several changes of water until all trace of formaldehyde odor has disappeared. Spread the seed in a thin layer and dry as rapidly as possible at room temperature. Do not heat during the drying."

b. *Corrosive Sublimate.* "All seeds should be soaked for fifteen minutes (no longer and no less) in a one-part corrosive sublimate to 1,000 parts of water solution of corrosive sublimate (bichloride of mercury), then washed thoroughly, dried, and stored in a clean bag or package in a place where they cannot become contaminated. The treatment may be given any time prior to seeding. Any farmer can practice this treatment who will follow the directions carefully. Bichloride of mercury tablets can be bought at the drug store. Directions for making a 1 to 1,000 solution are printed on the package. Tablets of different sizes are sold; one of the large tablets or four of the small tablets make the proper strength solution when dissolved in 1 pint of water. One pint of solution is sufficient for treating the average size lot of seed.

Corrosive sublimate is a deadly poison for man or animals if taken internally and it must be handled with great care. It should be prepared in glass or wooden vessels; it must not come in contact with metal. A quart Mason jar is convenient to treat the seed in. They may be poured into the solution and stirred, then strained off through cheesecloth at the end of fifteen minutes, or they may be placed in a cheesecloth bag and immersed in the solution. The bag should be poked or stirred about with a stick occasionally to make certain that the solution reaches all the seed. After washing, the seed may be dried in a few hours by placing them in a warm room. There is no danger of injuring seed with this treatment if the directions are followed carefully."

*Note.* Treated seed should always be put in new or sterile containers.

*Note.* The seed treated by either method must first be thoroughly washed and dried, even if it is to be immediately sprouted.

3. *Sterilization of Seedbeds.* No precautionary measures should be overlooked, and although it has not appeared to make much difference whether beds were sterilized or not, if all preventive measures are taken together, benefit will result. Sterilization by steam will kill the wildfire bacteria if in the soil of the beds, and this should be done, especially if the disease was present in 1921.

4. *Location of Beds.* If the disease was present in 1921 and if sterilization cannot be practiced, the beds should be changed to new land if practicable.

5. *Sterilization of Sash, etc.* Wash or spray the sash, plank or cloth with a solution of formaldehyde and water (1-50), equal to 1 pint formaldehyde to 6 gallons of water, and dry in the sun before using.

6. *Spraying or Dusting the Plants.* Spray or dust the plants with a fungicide (in this case acting as a bactericide) every week or ten days from the time that they are as large as a dime until setting is finished. Any good fungicide of the Bordeaux type may be used, such as home-made Bordeaux 4-4-50 formula, NuRexo, Pyrox or other similar commercial mixtures. NuRexo should be diluted at the rate of 8 pounds to 50 gallons of water, and Pyrox at the rate of 10 pounds to 50 gallons of water. The home-made Bordeaux sticks to the leaves best of any of the sprays according to Massachusetts' results and the Pyrox washes off sooner than any other. This lessens slightly the control. Sanders Dust (6% copper) gives excellent control as would dusts of similar copper content free from sulphur, and dusting is preferred by many on account of ease of application and also the apparently better covering of the unexposed parts of the leaves.

Apply the liquid sprays preferably in the afternoon when the

plants are dry, to escape the possible burning effects of the sun on the leaves wet with spray. Do dusting shortly after watering, before the plants have completely dried off.

For spraying, a good compressed air sprayer with a fine nozzle throwing a fine mist should be used. This will cover the leaves without drenching. For dusting, a good rotary hand duster is recommended.

7. *Watering.* Water the beds only sufficiently to keep the plants growing satisfactorily.

8. *Ventilation.* Ventilate even in cool weather as much as possible without checking growth materially. A little ventilation at night is also advisable when temperatures permit. Cross ventilation is to be preferred to ventilation all on one side. *Air circulation is important.*

9. *Planting.* Set plants in field from disease-free beds only. It would be advisable to have more plant beds than needed, planted at a later date, to permit of getting sufficient plants if a bed becomes infected.

Plants pulled and put in baskets should not be allowed to stand over night, as it has been found that if any infection is present, it will spread very rapidly under such conditions.

### FIELD

1. If only a few badly diseased plants are found in the field, remove and destroy them.

2. If the infection is slight and occurs on a few leaves only, pick and destroy them. This should be done when the plants are dry.

3. If a field shows a heavy infection before the first of July, reset the field with plants from healthy beds. Growers of small acreages can very profitably do this.

### GENERAL

Avoid using an excess of nitrogen to force the plants in the seedbed. There are grounds for the belief that where large amounts of nitrogen have been applied, resulting in a quick growing, sappy plant, the disease has spread more rapidly in infected beds. An addition of potash in the bed fertilization at the rate of 1 pound of sulfate of potash to 100 square feet of bed is recommended.