

## APPLICATION OF FUNGICIDE WITH A SPRINKLER SYSTEM

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In the last year or two, there have been reports from other areas on the application of fungicides with a sprinkler. Mr. R.E. Palmer, Irrigation Department, Sodus Fruit Exchange, Inc., Sodus, Michigan reported that leaf spot in strawberries was satisfactorily controlled by the use of a mercury type fungicide applied through a solid-set system. He also reported satisfactory results with insecticides in controlling insects.

In the spring of 1967, The Russet Potato Company purchased its first solid-set sprinkler system consisting of 160 acres. In co-operation with Mike Groskop of Sunspiced, Inc., we decided to experiment with 40 acres of the solid-set, using only the sprinkler as a means of applying fungicides for the control of early blight. To effectively control early blight on our farm, anywhere from 4 to 8 applications are required with either ground or aerial spraying equipment.

The mechanics of applying fungicides with a sprinkler is somewhat difficult. The fungicide must be injected into the system rapidly and then allowed to distribute throughout the system. When distribution is completed, the entire system must be immediately turned off. Timing is very critical since, one must not allow the fungicidal material to be washed from the plants.

To accomplish the foregoing technique, a 500 gallon tank was stationed at the well. The tank was filled with water and fungicide and were mixed thoroughly. The mixture was then injected with a pressure pump into the system. The 500 gallons was injected into the system in less than 5 minutes. It was found that it then required 14 to 15 minutes for the material to dispense through the last nozzle at the end of the laterials. The pump was immediately shut down and it remained off until the next irrigation. One pound of fungicidal material per acre was applied every three days throughout the growing season. Irrigation occurred daily on this particular 40 acre block.

The results of our first year were encouraging. The balance of the 160 acres was sprayed with a ground sprayer every 10 days with 2 pounds of material per acre and 60 gallons of water. We noted after the third application that we had a higher infection of early blight in the ground sprayed area. Consequently we then discontinued the ground application. For the remaining part of the season, the entire 160 acres was treated for early blight with the sprinkler system.

It was also interesting to note that we also controlled the Colorado Potato Beetle once during the season by injecting an insecticide through the system.

At this point, it must be stated that this report has its limitations in that we are reporting only one years results, and we are only reporting observations. However, we can report that in 1967, we observed a lower infection of early blight where we applied fungicides with our solid-set sprinkler system that where 5-6 applications were made with ground and aerial spraying equipment.