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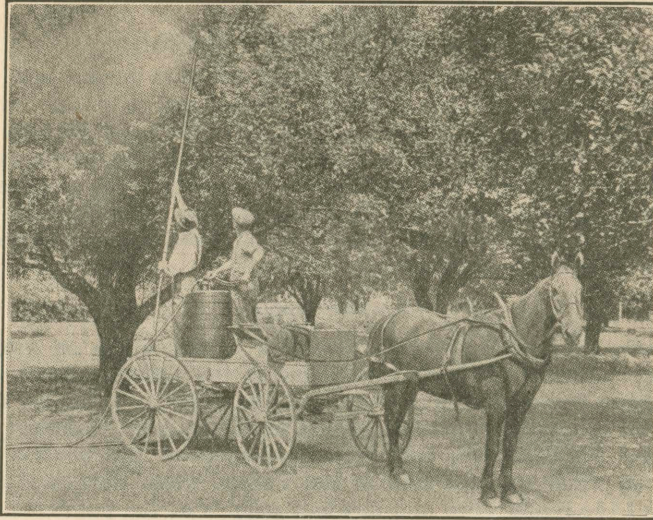
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Extension Leaflet No. 25

July, 1923

## SPRAYING THE HOME ORCHARD

By A. L. Ford, Extension Specialist in Entomology and Horticulture



Spraying apple trees

### Is Spraying Necessary in South Dakota?

South Dakota, as yet, is but little interested in commercial orcharding, but she is deeply interested in the home orchard. Every farm home and many town and city homes can produce enough good sound fruit for their own use if they practice a few principles of orchard sanitation, including spraying.

### What Can Be Accomplished by Spraying?

Apple trees, that are properly sprayed, at the right time, will not only outyield unsprayed trees but will produce a much larger proportion of sound fruit. Plum pocket can be reduced by applying the proper spray and the stinging of plums caused by the plum curculio can be markedly lessened. Leaf-feeding insects, which so often defoliate our trees, have no chance when the trees are properly sprayed.

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### **What Equipment Is Necessary for Spraying?**

Many home orchard owners do not spray because they believe a lot of elaborate and expensive machinery is necessary. For the small orchard this is not true. Efficient spraying can be done with an ordinary barrel pump costing from ten to twenty dollars, provided an extension rod is used to get the spray to all parts of the tree. For a few trees, good work can be done with a small three or four gallon compressed air sprayer, but again it is absolutely necessary to use a good long extension rod.

### **What Will It Cost Per Tree?**

The spray materials ordinarily used for both apples and plums are lead arsenate and lime sulphur. These are combined into one spray. This "two-in-one" spray can be prepared for about 1¾ cents per gallon. South Dakota's average mature apple tree requires from two to three gallons per application. Smaller trees require less. Plum trees can be sprayed with but a fraction of a gallon. From this it can be seen that our large bearing trees can be sprayed for about a nickel per application.

### **Spraying Apples**

There are two outstanding enemies of the apple as grown in home orchards in South Dakota. One is the ordinary apple worm, which is so common in our fruit, and the other is a fungus disease known as apple scab. Spraying should be aimed mainly against these.

Lead arsenate, one and one-half pounds of the powder to 50 gallons of water, is used against the worms, while lime-sulphur, five quarts of the liquid (two and one-half pounds of the powdered form) to each 50 gallons of water, is used as a spray for scab.

One of the most important things about spraying fruit is to get the various sprays on at the proper time. The best time to spray for apple scab is just before the blossoms open or when the buds are showing pink. Fair results can also be secured just after the blossoms have fallen. The most important spray for worms should be applied just after the blossoms fall. This pest can be further reduced by two or three subsequent sprays applied about three weeks apart.

Most home orchard owners consider their fruit as merely a side issue to their regular business and do not have time to spray four or five times each season. The person who is thus situated, and who has time to spray but once, should apply that spray just after the blossoms fall. It should contain both lead arsenate and lime-sulphur at the above mentioned strengths. By doing this, two things will be accomplished with but one operation, namely, the reduction of both apple worms and apple scab.

### **Spraying Plums**

The spraying of plums is aimed primarily at the reduction of plum curculio and plum pocket. The curculio causes the common



stinging of the fruit. Plum pocket is the fungus disease which causes the plums to swell to an enormous size and become corky in texture.

Plum pocket can be effectively controlled by spraying the trees thoroughly with lime-sulphur, five quarts of the liquid (two and one-half pounds of the powdered form) to each 50 gallons of water. If this spray is applied just before the blossoms open, most of the plum pocket trouble will usually be eliminated.

The plum curculio is one of our hardest insects to control. It can be reduced considerably by applying a spray of lead arsenate, one and one-half pounds to 50 gallons of water, just after the blossoms have fallen. Where time is available, one or two additional sprays, applied about three weeks apart, will further reduce this pest.

### **Sprays for Leaf-Eating Insects**

Whenever leaf-eating insects show up on the trees, in damaging numbers, a thorough spray of lead arsenate will usually solve the problem. In case the insects in question form large dense webs, it is well to break up the webs with a pole before spraying.

### **Precautions to Use in Spraying**

Never spray fruit of any kind when in full bloom. This encourages poor pollination. Furthermore, an arsenical spray, applied to blooming fruit, will kill many bees, resulting in either the loss or severe weakening of entire stands.

Do not attempt to spray in a high wind. Even though the breeze is light, always work with the wind, as less spray is wasted by that method and the job is more pleasant for the operator.

Do not be afraid to eat sprayed fruit. There is absolutely no danger from arsenical poisoning. Practically all of our commercial apples are sprayed four or five times, yet we have never heard of an individual being poisoned from eating such fruit.

### **Spray Rings**

One of the best methods of handling the spraying of all the home orchards in a neighborhood is through the formation of a **spray ring**. By the spray ring is meant the cooperative purchase and use of a good barrel pump by neighboring orchard owners. Several orchards can be sprayed annually by this method with but very little initial expense per member for equipment. Spray materials may be thereby purchased in bulk, resulting in considerable saving.

One good barrel pump will nicely handle around 300 trees. From six to ten orchards can be included in the ring if they are not located too far apart. The spraying outfit can be mounted in a light wagon and hauled from one orchard to another with but little trouble.