

### THE PROTECTION OF ORCHARD BY SMUDGING

By P. J. O'Gara, Scientific Assistant, Fruit-Disease Investigations, Bureau of Plant Industry.

Stable manure, straw and rubbish were also employed, but only to a very limited extent. These materials were principally used for producing a dense smudge, with the idea of protecting the orchards from the direct rays of the sun in the early morning after it was known that there had been some freezing of the blossoms. The idea in nearly every case was not to raise the temperature of the air in the orchards, as was the case with the use of wood, but simply to form a heavy smoke blanket which would prevent the blossoms from warming up too rapidly in case they were slightly frozen.

Another valuable material which was used only in a few cases is the lignite coal, which is mined near Medford. This coal, although not igniting very readily, was found to be of considerable value if used in connection with wood. In using the coal it was usually placed on top of the wood piles and was found to be a good heat producer. Undoubtedly it will be found very valuable where fires must be prolonged for some time during very cold nights.

#### Materials for Starting Fires.

In the experiments conducted by the writer the materials used for starting the fires varied about as widely as the materials used in maintaining the fires. These materials consisted of shavings or mill planings, sawdust, straw, crude oil, light brush and rubbish or rakings from the adjoining woods. One of the best materials was found to be mill planings, which were put into medium-sized paper sacks and the whole saturated with crude oil or kerosene. A considerable number of these bags were prepared beforehand and kept in a shed, where they were readily available when it was necessary to build the fires. Sawdust mingled with tar was also used, but it was found to be harder to handle and not so easily made up as the bags of shavings. Pine leaves and other forest leaves may be used for this purpose.

In some cases, instead of using shavings or very light material of any kind, kerosene was poured directly on the coarse material and then ignited with a match or a torch. This method, however, is more expensive than the former, and

unless the wood or other material is very dry the fires will not start. One of the most important factors in firing is to get the fires lighted as rapidly as possible when the temperature begins to drop or approaches the danger point. Of course where there is only a small acreage, this is not quite so urgent as where there is a considerable amount of ground to be gone over. With the use of kerosene and with the fires already laid, it was found that the fires for an acre could be lighted by one man in from seven to ten minutes. The use of a kerosene or gasoline torch is advisable for the reason that it does not readily blow out. With such a device one can light the fires almost as rapidly as he can run.

#### Manner of Distributing and Materials in the Orchard.

The number of heaps or piles of material which should be distributed in the orchard will vary somewhat, depending upon the kind of material used, about 40 to 50 piles per acre being usually sufficient. In most cases a heap or pile was placed between every four trees—that is to say, a pile every other tree row in each direction in the orchard. Generally it will be found that only half of these heaps will have to be lighted at one time, which, of course, allows a large amount of reserve material that may be used in case it is impossible to keep the temperature up with only half the fires lighted.

It is also well to place heaps of fuel on the outer edges or borders of the orchard, since it is often found that the outside trees may suffer where a slight breeze tends to blow the heat away. These piles should be distributed outside the last row of the orchard, and in case the temperature cannot be kept up they should be lighted.

In case the temperature cannot be kept up to 28 degrees Fahrenheit, a certain amount of straw or stable manure, which will produce a dense smudge, should be placed upon these heaps before the sun rises in order to prevent the slightly frozen fruit or blossoms from thawing out too rapidly. These smudges should be started on the side or sides from which the wind is blowing and the material should be wet, so as to make it burn without any flame.

### ROADS MAY INSTALL FLAT 2-CENT RATE

Western Lines Said to Be Considering Proposition of Abolishing All Special Rates and Establishing Minimum—Will End Colonist Excursions.

CHICAGO, Ill., July 2.—It is reported here on good authority that western railroads are considering a proposition of abolishing all special rates and making 2 cents the minimum.

This would mean the abolishment of colonists' rates and reduced summer rates. It is said that the executive committee of the Western Passenger association has taken the matter up at the instance of various railway presidents. The proposal is in line with general retrenchment policies recently adopted by the several western lines, following the passage of the railroad regulation bill.

The movement, however, is the revival of a movement started over a year ago.

Beyond agreeing that it would be sound economically to do away with all reduced rates for special occasions, all summer tourist rates and homeseekers' and colonists' rates, the executive committee has done nothing, it is reported. The committee plans to meet in the near future and see how far the western roads can go in the way of discontinuing reduced rates.

The trouble in reaching an agreement is that a number of the roads have certain classes of business which they are unwilling to give up. Some of the transcontinental lines desire to continue to attract people to the Pacific coast by reduced rates for conventions, and roads leading to the northwest and the southwest are unwilling to abandon the large colonist business by which thousands of acres of land are being settled every year.

#### AIRSHIP MEN IN EUROPEAN CONGRESS

PARIS, July 2.—Aviators from

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Only a very limited supply of these splendid WASH SUITS, dresses and waists remain. We wish to dispose of them quickly and in order to do so have made the prices half. Make a resolution to visit here this week sure.



## THE EMPORIUM

O. E. TACKSTROM, Proprietor, Successor to MONTGOMERY'S.

all parts of Europe are assembling here today to attend the Rheims aviation meet, which will begin tomorrow. Forty biplanes and 23 monoplanes will be entered in the contests, which promise to be the most eventful ever held.

Aviators Rolls, Bleriot, De Lesseps, Paulhan, Farman, Du Bonnet and Lambert will compete for prizes which total \$65,000.

Working for Health

#### ROSEBURG WOMAN IS VERY BADLY BURNED

ROSEBURG, Or., July 1.—While kindling a fire outdoors near the family home at Winston, a hamlet seven miles south of here, Mrs. Ollie Heater, daughter of Mr. and Mrs. George Brosi, wealthy fruitgrowers, received burns which may cost her life. Witnesses to the accident say that the woman was standing near the fire when her clothes became ignited. She

became hysterical and started to run, with the result that the flames, fanned by a slight breeze, soon enveloped her.

Relatives rushed to her assistance, but before her clothing could be torn from her body Mrs. Heater was frightfully burned. Her father, George Brosi, also received serious burns extinguish the flames, and as a result will be unable to resume his labors for several weeks. Physicians rushed to the scene and are exerting every

effort in the hope of saving the woman's life.

#### INNOCENT MAN SPENDS TWELVE YEARS IN PRISON

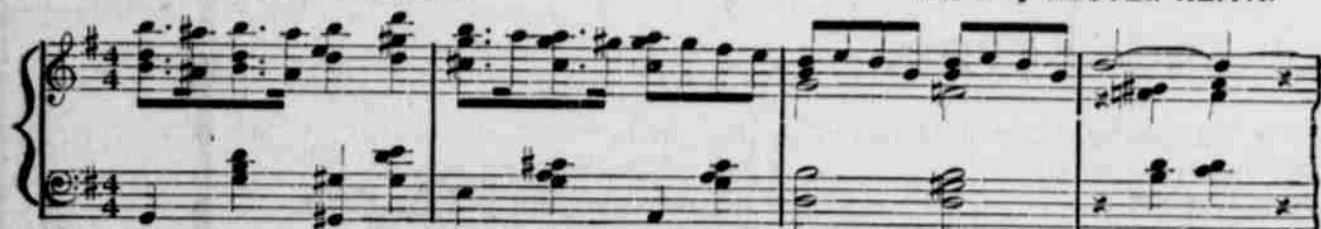
LINCOLN, Neb., July 1.—After serving 12 years in prison for a murder that he did not commit, Andrew Hawkins, 70, will be released on a pardon today. Three men have confessed to the murder and their statements have convinced the authorities that Hawkins had nothing to do with the crime.

## ALWAYS LOVING YOU.

Sung by TOBY CLAUDE in Vaudeville.

Words by JOHN KEMBLE.

Music by LESTER KEITH.



1. Why are you so si - lent, why are you so sad?  
2. Life was once so emp - ty, bar - ren, bleak and bare,



All theskies are sun - ny, why should you feel bad? I've been ver - y lone - ly—lone - ly ev - 'ry day,  
Now it's like a gar - den—flow - ers ev - 'ry-where; When I have you near me all the world's in tune,



But it was be-cause some-one was far a-way— Now the birds are sing-ing, you are by my side,  
For your smiles can turn De-cem-ber in - to June— You have made me brav-er, you have made me glad,



Latest Popular Songs For Sunday Readers of the Medford Mail Tribune

