

EFFECT OF OIL SMUDGE INJURIOUS TO COMICE PEARS

BY DILLON R. HILL.

Comice pears, a delicate, sensitive hybrid product, will yield a small harvest in this valley this year. Two primary causes may be noted. In orchards where irrigation is not provided, lack of moisture is one cause. In orchards where smudging has been done for a period of years, even if they have irrigation or sub-irrigation, the emulative effects of ethylene gas are readily apparent. That is the other cause; and its effect is more permanent than that of drought; more deadly to the fruit bud, the fruit bloom, the tender fiber of the fruit bough itself and, finally, to the fruit tree.

In orchards where heavy smudging has been done for a number of years, the damaging effect of the poisonous gases thrown off from oil fuel imperfectly burned may be easily observed from year to year until presently a marked shortage in the yield is noted as a regular seasonal occurrence. The vigor of those trees never will come back. They have been vitally poisoned.

Pollination Is Effected.

The dense smoke thrown off by the oil pots will prevent pollination when smudging occurs before fertilization has taken place. When the process of fertilization is understood, the reader cannot doubt that it must be injuriously affected both by the poisonous gas thrown off and the contact with the sticky smudge particles not consumed in the burner.

The egg cell or female element of the flower is in the center of the lower end of the pistil. The pollen or male element is born in the anthers, which are found in the tips of the stamens. When the pollen is ripe, the anthers split and allow the grains to scatter. Some pollen is light and dry and is carried by the wind, while other pollen is sticky and heavy and must be carried by insects. When the pistil is receptive to fertilization the tip or stigma secretes a sticky liquid which catches the pollen grain if it comes in contact with it, which also acts as a germination medium for the pollen.

Gluey Liquid a Food Also.

The gluey liquid thus provided by nature serves also as a food on which the pollen lives until it passes through another delicate process. If it is poisoned with ethylene gas, the latter kills the pollen as surely as if you were to touch a lighted match to it. If the smudge particles touch it, they cling to it, thus drying it up. Its effect cannot be avoided, once the air is filled with smudge smoke.

Follow the pollen further, should it escape any one of these deadly causes. After the grain has been deposited, it will lie in the liquid sometimes twenty-four hours before the germination starts. Then a tube begins to grow from the wall of the pollen grain and enters the tip of the stigma. This tube works its way down through the tissues of the pistil, usually opening its own passage-way until it reaches the egg cell. Here the tip of the tube enters a minute opening in the ovule of the nuclei of the pollen grain, thus forming the embryo of the seed. This whole process requires from 30 to 60 hours.

How the Bloom Is Ruined.

If smudging takes place while the pistil is receptive and before pollination has taken place, the bloom is ruined, because the soot will collect on the stigma as long as there remains any moisture that is unabsorbed. The damage is doubly sure in this case, because the pollen cannot stick when the juices are absorbed by the soot; and, should a pollen grain chance to lodge on the soot and stick, it could not germinate because the stigmatic fluid, which is absolutely essential to germination, has been absorbed.

If the blossom has been pollinated the day before the smudging takes place, germination might start, but fertilization would probably never be completed, owing to the loss of the necessary stigmatic fluid by absorption in the smudge particles.

There is still another chance for injury. It has been proven that the dust from a cement factory will prevent fertilization by neutralizing the slight acidity of the stigmatic fluid. This prevents the germination of the pollen grain.

Same Effect From Smudge.

There is also the possibility of injury similar to this from the soot or foreign matter which the smudge carries. Another damage is found in the reaction between the stigmatic

juices and the soot or foreign matter which it carries to form some injurious compound that might poison the blossom to such an extent as to cause it to drop, even though fertilization was complete.

These processes are all simple, but as absolutely necessary as the air itself. They should be understood by every fruit producer to enable him to avoid the production of such causes as results in death to his harvest. Ignorance of them is precisely what has led so many orchardists here and elsewhere to use the smudge as a frost preventive, rather than heat produced by a perfect combustion of the fuel used or by a super-saturated atmospheric condition produced by irrigation to prevent frost by controlling the temperature. In the latter system there is absolutely no danger. Nature uses it in the form of fog, of which I will speak in my next article.

ODD FELLOWS TO CELEBRATE ANNIVERSARY

The Odd Fellows and Rebekahs of Medford and the Rogue River valley will gather at Grants Pass on Thursday to aid in the big celebration there in commemoration of the 98th anniversary of the founding of the order. At the gathering plans will be formulated for the celebration of the centenary anniversary two years hence.

A special train will depart from Ashland at 10 a. m. Thursday and reach Medford about 10:30 a. m. It will also carry the Odd Fellows and Rebekahs of Jacksonville, Central Point, Eagle Point, Talent, Gold Hill, and Rogue River. Returning the special train will leave Grants Pass after the night program is completed.

The Grants Pass I. O. O. F. fraternity expects to entertain about 1000 members of the order and its ladies auxiliary from the Rogue River valley and vicinity. The afternoon program will be taken up mainly with a business session of the Southern Oregon I. O. O. F. Association. The anniversary exercises and social features will be held in the evening.

RED CROSS WANTS MORE OLD MAGAZINES AND PAPERS

"Paper day" was a huge success. All who aided in the work on April 21st, surely feel amply recompensed by the assurance that they were helping to benefit their country. The time for gathering papers was not limited to Saturday. As it will be a week or more before the shipment can be made, any who still have old newspapers, magazines, etc., are urged to bring them to the fire department house. "Heap big" lot of papers means "heap big" fund to donate to the Red Cross.

QUARANTINE CITRUS FRUIT FROM ORIENT

WASHINGTON, April 25.—The Secretary of Agriculture has information that a dangerous disease known as citrus canker, not heretofore widely prevalent or distributed within and through the United States, exists in eastern and southeastern Asia (including India, Siam, Indo-China and China), the Malayan archipelago, the Philippine Islands, Oceania (except Australia, Tasmania and New Zealand), Japan (including Formosa and other islands adjacent to Japan) and in the union of South Africa, and that infected fruit is coming to the United States. It therefore becomes the duty of the secretary of agriculture to consider the advisability of prohibiting the further importation of citrus fruits from the countries and localities above named, including oranges, lemons, pomelos or grapefruit, and all other citrus fruits.

The citrus canker disease was introduced into the gulf region of the United States, presumably in 1911, from the Orient. The western citrus fruit districts of California, New Mexico and Arizona are still free from this disease. Upwards of \$1,000,000 of federal and state funds have been expended in fighting the disease in Florida and other states of the gulf region. A vigorous attempt to exterminate the citrus canker, involving the destruction by burning of between five and ten million dollars worth of citrus trees, is being made, with prospects of successful outcome in several, if not all, of the infected states.

FIRST NATIONAL BUYS WAR LOAN CERTIFICATES

The First National Bank of Medford has subscribed for \$75,000 of the new government treasury certificates being issued for war purposes. These certificates draw three per cent interest, are non-taxable and can be used to apply on purchase of government bonds as soon as they are issued, which will be in the near future.

The total issue of treasury certificates is \$200,000,000 and the amount subscribed for by the First National bank of this city is probably as large as will be taken by any bank in a city the size of Medford on the Pacific coast and is much larger in proportion than is being subscribed for by banks in the larger financial cities on the coast, which certainly speaks well for the local financial institution.

COTTERILL COMING TO ROADS MEETING

Among the parties who have previously advised Secretary Hoos of their attending the Tri-State Roads Association convention, Geo. F. Cotterill, former mayor of Seattle, now chief engineer of Washington, says: "I have always had the desire to see more of that section of Oregon than the passing view one gets from the railway, and I am glad to note that Mr. Allen, state highway commissioner of Washington, has arranged for me to be with your Good Roads convention at the meeting on May 16 and 17."

Mr. Cotterill in the past years was a great factor in the city of Seattle municipal activities and is well known throughout the west as an engineer of prominence.

His topic on the program for the May meeting is "State Highway Development in Washington."

PATENT GRANTED TO HANEY FOR HOSE HOLDER

Patents granted to citizens of Oregon, April 17, 1917. Reported through the office of R. G. Park, Jr., solicitor of patents, Washington, D. C.:

Anna K. Ashmon, Salem, chimney-holder.

Orin N. Boyer, Ontario, automatic scale-weight, fruit and vegetable sizer.

Hugh E. Brown, assignor one-half to E. Brice, Portland, oil-burner.

William C. Coleman, Portland, wearing apparel.

Walter Dyer, Portland, arch construction.

Albert M. Grubbs, Portland, animal trap.

Ferdinand Gundorph, Portland, pendulum-escapement.

Burton E. Haney, Medford, lawn hose holder.

Charles C. Mitchell & W. J. Barham, Dallas, bed spring and tightener.

Karl G. Moltzner, Portland, fruit cutter and pitting machine.

Christina Swanson, assignor to J. Kopf, Portland, hat fastener.

TWO MILLIONS IN DIAMONDS ARRIVE IN NEW YORK

NEW YORK, April 25.—A shipment of diamonds valued at more than \$2,000,000 arrived at an American port today on a Dutch steamship from Rotterdam. The stones are consigned to American dealers.

HEARING ORDERED FOR INCREASES IN RAILROAD RATES

WASHINGTON, April 25.—The Interstate Commerce Commission today prescribed the method of procedure in the fifteen per cent rate advance cases by permitting the railroads to file supplemental tariffs covering the increase. This is in line with the commission's tentative order entered into a few days ago.

A new tariff will be subject to protest, suspension, complaint, investigation and correction, the commission announced and their filing is only preliminary to detailed consideration of the application and does not dispose of the cases.

Indication are that the commission will soon set dates for hearings at which the merits of these increases will be considered and shippers will be given an opportunity to state their views.

The effective date of the order, should it be finally approved is changed from June 1 to July 1.

FARM ADVISER OF S. P. TO LECTURE IN MEDFORD

H. W. Campbell, farm adviser for the Southern Pacific company, writing from his Nebraska home to the Medford Commercial club, states that Saturday, May 5, the date selected for his appearance in this city for his noted lecture and stereoscopic illustrations, is entirely satisfactory to him. Mr. Campbell has fully recovered from the illness which prevented his appearance here, as per announcement, a month ago. The substantial and practical instruction in that lecture is of special value to farmers everywhere. He should have an immense house on May 5.

Mr. Campbell also writes that the wheat crop in Nebraska is almost a total failure this year—just when a bumper crop would have been a God-send, both to the producer and the consumer. "Those farmers who followed our instructions" says Mr. Campbell, "have green fields and a splendid promise of a big crop; but those farms are only an occasional green spot in the great areas of wheat-producing territory in Nebraska."

PLAN TO RAISE FUND FOR Y. M. C. A. FOR WAR USE

Ministers and citizens from all parts of Jackson county gathered at the public library Thursday afternoon and under the direction of the

Y. M. C. A., decided to commemorate Y. M. C. A. day in the churches May 6th and endeavor to raise \$1500 in the valley for the work of this organization. Mr. Rhoades outlined the work of the Y. M. C. A. in war and quickly dispelled the idea that the association is merely a group of well meaning enthusiasts. He showed how practical and necessary the work is and maintained that it only came second in importance to the Red Cross. It is planned to raise \$60,000 in Oregon and Idaho, every brigade in the army to be furnished a Y. M. C. A. unit. The following committee was named for Medford: C. E. Gates, W. H. Gore, Dr. R. W. Stearns, Fred Mears, George Roberts, Vernon Vawter, B. W. Paul and Rev. Rice. The work in Central Point will be under the direction of Rev. Bandy and in Jacksonville under the direction of Rev. Gammons, while the following committee was named for Ashland: G. C. McCallister, C. B. Lamkin, C. F. Carson, J. F. Patty, G. R. Slingerland, Clark Bush and G. H. Billings. The work for raising the necessary funds will start in the various churches and will be followed by personal solicitation under the direction of the local committee followed probably by a mass meeting in Medford.

THOUSANDS UPON THOUSANDS OF HEALTHY BOYS & GIRLS EAT Grape-Nuts AND CREAM EVERY MORNING BECAUSE WISE MOTHERS KNOW "There's a Reason"

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