

been observed. Toxicological tests by the Food and Drug Administration are incomplete, but their experiments indicate the likelihood that the compound will be acceptable for application to the skin.

Passage of the Ring Spot Virus Through Mazzard Cherry Seeds

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Among unbudded Mazzard cherry seedlings in the nursery row occasional seedlings showing ring spot and mottled patterns in their leaves are a common occurrence in western nurseries. When buds were taken from such mottled trees and placed in peach, typical ring spot symptoms, as described by the author (1), developed. Although postemergence infection of the seedlings in the nursery row could not be ruled out, the question of seed passage was raised.

In 1943 Mazzard cherry seed was purchased from a western grower who supplies seed to the nursery trade. The seed was taken from a mixed lot collected from stray and pollinator trees scattered through a commercial orchard of sweet cherries. The fruit on the Mazzard trees varied in color, size, shape, and ripening date; the size of the pits was also variable. It is not known whether these trees were planted as pollinators or were the result of sweet cherry on Mazzard rootstock, where the sweet cherry top died and the rootstock grew into a tree. Another lot of seed (supplied by E. L. Reeves) was from a Canadian source tree of Stark's Gold (a large-fruited yellow Mazzard) which had given uniform seedlings without evidence of ring spot symptoms in their leaves. A third lot of seed was collected from a Mahaleb cherry tree which had been previously experimentally infected with the ring spot virus and which had shown characteristic symptoms for two years. A fourth lot was collected from an untreated check Mahaleb cherry which, based on visual symptoms, was virus free. All seeds were stored for 100 days in moist peat at 36°–40° F.

The seeds were planted in ground beds in a lath house at the Citrus Experiment Station in April 1944, and growth proceeded rapidly. By 1 June scattered seedlings in the commercial Mazzard lot were showing leaves with crowded ring patterns. Since the seeds were planted closely, the seedlings became crowded, resulting in dwarfing of some. Counts were made, including only those 6 inches or more in height. Of the 467 seedlings counted, 25 were affected with ring

spot. Some of these were strikingly affected with vivid, crowded, chlorotic ring patterns, necrotic rings, shot hole, and lace leaf. Others were less affected with chlorotic spots, rings and concentric rings, and oak-leaf patterns. In all cases the size of the rings was in inverse proportion to the number present—the greater the number, the smaller the diameter. No evidence of ring spot was seen in 90 seedlings resulting from the Stark's Gold seed, in 167 seedlings from the Mahaleb experimentally infected with ring spot, or in 120 seedlings from the visually healthy Mahaleb tree. Since these seedlings were grown in the same bed, they serve as a check to show that the Mazzards were not infected from an outside source.

In October 1944, 6 of the 25 Mazzard seedlings showing ring spots were selected, and 2 buds from each placed in each of 2 Hale peach nursery trees. A parallel series was set up with buds from 6 of the Mazzard seedlings showing no evidence of ring spot. In April 1945, 7 of the 12 peach trees inoculated, and representing 5 of the 6 symptom-bearing Mazzards, had developed typical ring spot but varied in type and severity with the different source seedlings. Most of the infected Mazzard inoculum buds died shortly after insertion, which may account for failure of infection in 5 of the Hale peach trees. It is also possible, since the Hale peach nursery stock was obtained on the open market, that the 5 trees failing to develop symptoms were already carrying the ring spot virus and would develop no symptoms following inoculations. None of the peach trees budded from normal-appearing Mazzard seedlings developed any symptoms of ring spot, although all bore living Mazzard buds.

All of the cherry seedlings were moved to the nursery row and observed for symptoms during the growing season of 1945. Twenty-four of the original 25 Mazzards showing rings survived, about one-half of them developing good ring spot symptoms. None of the remainder of the Mazzards or of the other lots developed any ring spot.

It thus appears that the ring spot virus can invade and be carried in Mazzard cherry seeds. Since the Mazzard seed lot was a sample taken directly from the trade, it should give some indication of the percentage to be expected from seed gathered at random. The amount of the seed in this study coming from trees infected with ring spot is not known nor is the percentage of ring spot which would result if the seed were taken from a single infected tree.

Seed passage helps to explain the wide occurrence of this virus in both sweet and sour cherries. Although only a relatively few of the seeds were infected, these were sufficient to provide for widely scattered distribution in nursery stock propagated on

Mazzard and from which spread could later take place in the orchard. Once well distributed in orchard trees where in many varieties it is latent or nearly so, the virus is further distributed through varietal bud and scion wood. Milbrath and Zeller (2) report a nearly universal occurrence of latent virus in both sweet and sour cherries in Oregon. Moore and Keitt (3), working with sour cherry yellows, report all their sources of this virus to be contaminated with necrotic ring spot. Further evidence pointing to cherry as a reservoir of this virus, in which a more uniform distribu-

tion is perhaps an indirect result of seed distribution, is the lesser occurrence of the virus in other stone fruits in districts where cherries are not grown. The virus is rare in peach in Texas and extremely rare in peach in the southeastern United States.

References

1. COCHRAN, L. C., and HUTCHINS, LEE M. *Phytopathology*, 1941, **31**, 860. (Abstract.)
2. MILBRATH, J. A., and ZELLER, S. M. *Science*, 1945, **101**, 114-115.
3. MOORE, J. DUAIN, and KEITT, G. W. *Phytopathology*, 1944, **34**, 1009. (Abstract.)

News and Notes

About People

Wilmer Souder has been appointed chief of the Metrology Division, formerly the Division of Weights and Measures, of the National Bureau of Standards. Associated with the Bureau for 31 years, Dr. Souder developed the Dental Research Laboratory and the Identification Research Laboratory.

M. W. Jennison has been appointed professor of bacteriology, in charge of the Division of Bacteriology, Department of Plant Sciences, College of Liberal Arts, at Syracuse University, effective in September.

John D. Ferry, assistant professor of chemistry at the University of Wisconsin, has been awarded the \$1,000 Eli Lilly and Company prize by the American Chemical Society, for outstanding achievement in biochemistry. Dr. Ferry was cited for "versatile and incisive studies on the chemistry, especially the physical chemistry, of large molecules."

James G. Betrem, formerly of Java and known for his work on Scoliidæ, writes that he was a prisoner of war of the Japanese for three and one-half years but was eventually freed in good health. His wife died in another camp. He is at present on leave in Bussum, Netherlands. During his leave he has been instructed by the Government of the Dutch East Indies to study the newest developments in insect control, especially DDT and gammexane.—*J. C. Bradley.*

David R. Miller, chief of the Gage Section, National Bureau of Standards, has been appointed assistant chief of the Bureau's Metrology Division.

W. O. Milligan, assistant professor of chemistry at the Rice Institute, Houston, Texas, received the Doctor of Science degree from Illinois College on 16 June.

William C. Young has been made associate professor of anatomy in the University of Kansas Medical School, Lawrence, effective in September.

Fred J. Kelly retired from his position as chief of the Division of Higher Education of the U. S. Office of Education at the end of June.

Carl J. Christensen, of the Bell Telephone Laboratories technical staff, has been appointed dean of the School of Mineral Industries, University of Utah. Dr. Christensen, associated with the Bell Laboratories since 1929, has been in charge of metallurgical research. The School of Mineral Industries is being created by a division of the present School of Mines and Engineering. A. LeRoy Taylor will continue as dean of the School of Engineering.

William S. McCann, head of the Department of Medicine, University of Rochester School of Medicine and Dentistry, has been appointed vice-chairman of the American Board of Internal Medicine. He has also been appointed a member of the Board of Regents of the American College of Physicians, Philadelphia, for a term of three years.

James H. Bywaters has returned to the U. S. Regional Poultry Research Laboratory, East Lansing, Michigan, as geneticist after serving more than four years in the Ordnance Department, U. S. Army.

Edgar N. Transeau, chairman of the Department of Botany, The Ohio State University, will retire on 1 October after 30 years of service. Prof. Transeau has been head of the Department since 1918 and director of the Botanical Garden at Ohio State since 1930. He is a past president of the Botanical Society of America, the Ecological Society of America, and the Ohio Academy of Science.