In line with this manner of naming, the following designations are proposed for the citrus viruses:[6]

Citrivir italicum (italicum = pertaining to Italy). The virus causing infectious mottling of citrus.[7]

Citrivir psorosis (psorosis, Latin genitive of *psorosis* = of the psorosis disease). The virus causing psorosis of citrus.[8,9]

C. psorosis var. *vulgare* (vulgare = general, common). The virus of psorosis A, or the common scaly bark type.[8,9]

C. psorosis var. *anulatum* (anulatum = with a ring). The virus of psorosis B, a distinctly different type from A.[8,10]

Other forms which are believed to be due to varieties of the psorosis virus pending further evidence are "concave gum," "blind pocket," "crinkly leaf" of lemon and "infectious variegation."

There are still other virus-like effects in citrus in which viruses are suspected but about which insufficient knowledge regarding transmission is known to justify virus names at present. Some of these are leprosis of Florida and South America, cyclosis of Brazil and concentric ring blotch of South Africa. In this connection it should be pointed out that there is no known experimental evidence to justify Atanosoff in listing as virus diseases a number of other things on citrus. To list certain effects as virus diseases merely because they have no known causal agent serves no useful purpose and tends to fill the literature with misleading erroneous citations.

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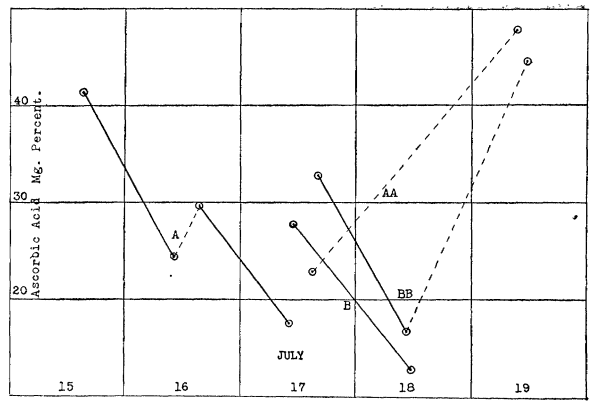
SOLAR RAYS AND VITAMIN C

IN an attempt to correlate the ascorbic acid content of young tomato plants of different varieties with the Vitamin C content of the tomatoes they produce, we have discovered a striking relationship between solar irradiation and ascorbic acid content in the plants.

Tomato seeds were planted on June 4, 1940; 24 plants of each variety transplanted into separate flats on June 14. They were kept in the greenhouse until June 26, when the flats were placed in the open. Five flats (Group A) were brought into the laboratory on July 15 and five additional flats (Group B) on July 17, for ascorbic acid studies. On Chart 1, graphs A and B represent the values when single whole plants, cut off at the ground (about 10 g), were used as samples. For graphs AA and BB the upper portions of 3 to 5 plants (about 10 g), from just below the two upper side leaves, were used. Since variety showed no consistent effect, averages of the five varieties at each time of analysis are indicated. Between points connected by solid lines the flats were in the laboratory, with diffuse sunlight during the daytime, while between points joined by broken lines they were in the open on the roof.

CHART 1.



It is evident from Chart 1 that there was a rapid loss of ascorbic acid when the plants were kept in the laboratory over night, and a rapid recovery when the plants were exposed to direct sunlight.

This observation raises the question of the role of ascorbic acid in plant life, about which little is known in comparison with our knowledge of its functions in animal physiology. The loss of Vitamin C in market vegetables is commonly ascribed to atmospheric oxidation. The much more rapid losses in these growing plants suggests its use in some physiological process, with solar rays as essential to its production.

We also have evidence of a positive correlation between ascorbic acid and sugar in the ripe tomato fruit. Is it possible that ascorbic acid is a step in the formation of other carbohydrates? We present these data in the hope that others may carry such studies further, since they are beyond our province.

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INEFFICACY OF PANTOTHENIC ACID AGAINST THE GRAYING OF FUR

GYÖRGY and Poling have recently reported[1] the results of studies which indicated that pantothenic acid has a curative effect on the nutritional achromotrichia

[6] Because of limitations of space, at the suggestion of the editor the detailed descriptions of these viruses are omitted. These are being submitted to *Phytopathology*.

[7] T. Petri, *Bol. R. Staz. Pat. Veg.*, n.s., 11: 105–114, 1931.

[8] Howard S. Fawcett, "Psorosis: In Citrus Diseases and Their Control." 2nd ed., pp. 188 to 203. New York: McGraw-Hill Book Company, 1936.

[9] *Idem, Phytopathology*, 24: 659–668, 3 figures, 1934.

[10] *Idem, Phytopathology*, 28: 669, 1938 (abst.) and 29: 6, 1939 (abst.).

[1] P. György and C. E. Poling, SCIENCE, 92: 202, 1940.