RIDGES AND SECTORS INDUCED IN OLIVE FRUITS BY FUMIGATION WITH HYDROCYANIC ACID

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In a previous paper (1), the authors have shown that the fumigation of citrus trees with hydrocyanic acid (HCN) for pest control, at a time of the year when the fruit buds are in a certain stage of development, produced ridges and sectors in the outer portion of the peel (flavedo) of the fruit. In the navel orange, Valencia orange and grapefruit varieties, fumigation of trees in February produced the greatest amount of ridged fruits, but in some years extreme ridging of the fruits occurred on trees fumigated the latter part of January. In the lemon variety, trees fumigated in February produced the highest percentages of fruits with ridges and sectors, but ex-

Fig. 1. Ridges on olive fruits (Manzanillo variety) caused by fumigating the tree when the fruit was in the bud stage of development.

tensive field observations have shown that fruits of lemon trees fumigated from late January to April, inclusive, were severely affected. Variation in the time and rate of bud development of citrus trees in different groves and in different years indicated a definite variation in the time of the year in which ridging was produced in the fruit by fumigation. The development of ridges and sectors on citrus fruits depended mainly upon the stage of development of the buds at the time the trees were fumigated.

Since these results on citrus were published, Mr. A. F. KIRKPATRICK, working on the development of a program for the control of parlatoria scale (Parlatoria oleae Colvee) on olive trees by HCN fumigation, called to the
authors' attention a similar phenomenon on olive fruits (fig. 1). As in citrus, the fumigation of olive trees in the spring at a particular and definite stage in the development of the bud resulted in ridges and sectors on the fruit. The occurrence of this phenomenon on a fruit other than citrus and under similar experimental conditions substantiates the published results of the authors (1). It is highly suggestive that this phenomenon may demonstrate a general physiological effect of HCN if experiments were performed on a sufficient number of fruit varieties.

LITERATURE CITED