Waterloo: BC, MO, NY, WP
Wcsesna: NY
Werdersche Braune: BC
———— Markt: NY
———— Fruhe Herzkirsche: MO, WP
———— Marktkirsche: BC, MO
Werner's Fruhe: MO, WP
Wesselhofts: BC
Wild Cherry From Caucacus Mts. (USSR): BC
Williams Favorite: MO, WP
Wils Fruhe Herzkirsche: MO, WP
Wimmartingse: MO
Windsor: BC, CO, IL, NY, OV, PA, VA, WP
Winklers Weisse Herzkirsche: MO, WP
Wotynska: NY
Wragg: MT
Wye Morello: BC, MO
Yates Seedling: BC, NY
Yellow Glass: BC, NY, WP
——— Spanish: BC, IL, NY, OV, VA
Zeisberger Riesenkirsche: BC, WP
Zoete Morel: BC, MO
Zum Feldes Fruhe Schwarze: BC
Zweitfruhe: BC, MO, WP
Zworte Vleeshers: BC, MO, NY

The Effect of Alar on Fruit Cracking of Stayman Winesap Apple[1]

D. T. SULLIVAN AND F. B. WIDMOYER[2]

Stayman Winesap ranks eighth in U. S. apple production with significant plantings in the Appalachian and Ohio Basin areas. The cultivar has many desirable characteristics, being classed as an excellent dessert apple as well as a processing apple for sauce, baking, freezing, and juice. It also has some serious weaknesses. Fruit cracking prior to and after harvest, poor fruit finish, and scald have been problems.

Blaxtayman trees were planted in 1947 in the New Mexico Agricultural Experiment Station orchard. The fruit has been affected by cracking to some degree nearly every year. Red color development has been poor both in intensity and percentage of fruit covered. Boron sprays and soil management practices had no effect on cracking, although red color development was improved under sod treatment.

Since Alar has been found to improve red color (1), eight trees were selected for treatment in 1968. Alar was applied to four of the trees at the rate of 2000 ppm on July 8. Three weeks after treatment, the Alar trees appeared to have darker green foilage. Severe cracking did not develop until September, although in previous years it usually began in July.

The fruit was harvested from all trees on September 29, and samples were taken. The results are presented in table 1. Alar-treated trees produced significantly fewer cracked apples, and the average weight per apple was greater, although total yields were not significantly different. The increase in size is contrary to results re-

Table 1. The Effect of Alar on Fruit Characteristics of Stayman Winesap Apples.

	Control	Alar
Length (mm)	49	57
Ground color	2.3	2.4
Length (mm)	59	57
Diameter (mm)	60	68
Length/diameter ratio	.83	.84
Weight per apple (gr.)	101**	133
Firmness	21.7	21.4
Percent soluble solids	15.9*	14.6
Optical density	1.63**	1.36
Percent cracked	31**	19
Percent windfalls	30	18
Average yield per tree (lbs.)	282	312

*Indicates significance at the five percent level

**Indicates significance at the one percent level

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[2]Professors of Horticulture, New Mexico State University, Las Cruces, New Mexico 88001.

ported with Alar on other cultivars (2). However, reduced cracking and increased fruit size may be related. One theory is that cracking is related to the elasticity of the skin (3). Alar may have improved elasticity, permitting greater fruit enlargement without cracking.

The effect of Alar on maturity and reduced cracking is not clear. Fruit from treated trees was significantly lower in soluble solids, but firmness was unaffected. Although flesh color (optical density) was greater, there was no corresponding advancement in ground color development.

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History of Peaches in California*

Peaches were first brought to California by Spanish missionaries during the 18th century. When the explorer George Vancouver visited California in 1792, he found peaches growing at Missions Dolores and Santa Clara. The first American settlers arriving in California found peach trees. John Marsh, of Mt. Diablo mentions such trees in a letter to Lewis Cass.

Peaches were also planted by the Russians in California. Letters by Khlebnikoff tell of peach trees brought by them by ship from San Francisco, planted near Ft. Ross and then bore fruit in 1820.

According to Wickson (1914) a George Yount planted peaches as early as 1841. T. K. Stewart planted peach seed in Sacramento in 1850. George G. Briggs began planting peaches near Marysville in 1852.

General John Bidwell started a nursery which included peaches in 1851. In that same year, Seth Lewelling brought what were probably the first named peach varieties into California from Oregon. Bernard S. Fox was one of several nurserymen near San Jose who began importing named peach varieties in 1852. By 1860 he had 89 varieties. Col. J. L. L. F. Warren started a nursery in 1849, and published probably the first catalog in California, in which he listed 20 peach varieties, including Early Crawford, Large Blood, and Old Mixton. In 1856, a group of ten nurserymen had more than 300,000 peach trees. And by 1857, there were already about one million peach trees growing in California orchards.

Commercial drying of peaches became a factor after 1870. In 1886, about 4,250,000 lbs. of peaches were dried in the state. By 1890 the figure was 12,250,000 lbs., and 50,000,000 lbs. by 1910.

Commercial peach canning in California began late in the 19th century. Some 700,000 cases were packed in 1895. At first, it was mostly a freestone deal. With the introduction of varieties like Phillips, the clings came into the picture, and by 1913, they predominated, with a pack of 2,000,000 cases.

Much effort has been made in California to develop new varieties of peaches to meet consumer demands and to overcome the prolonged dormancy problem. The work of Luther Burbank is well known. Peach variety testing began very early at the University of California, where a test orchard was established in 1874, and contained 89 varieties in 1875.

*Based on an article published in "Blue Anchor," June 1938, by H. M. Butterfield, of Univ. of Cal.