Effects Of Plant Growth Regulators On Orange Drop  
W. S. Stewart, L. J. Klesk, and H. Z. Field

In citrus, fruit drop may be considered a continuous process from the time of flowering to fruit maturity. Superimposed on this background of continuous drop are periods during which drop is more intense. These periods are referred to as June, drop, and preharvest drop.

Preharvest Drop Reduced

The first early spray recommendations reported here, using water sprays of 2, 4-D to reduce mature fruit drop in citrus was established in Valencia orange orchards in May, 1941.

Concentrations of 2, 4-D tested, ranged from five pounds of 2, 4-D in one million pounds of water, to 40 pounds per million. In numerous subsequent tests, a reduction in drop of mature fruit was found even when the spray was applied weeks after a heavy drop had been in progress.

In respect to the data are very considerable variations in drop in fruit was variable, ranging from 25 to 75 per cent in eleven plots distributed throughout southern California.

This was to be expected, considering the variation in drop observed among individual orchards and considering that some plots were harvested before severe drop from the unharvested trees occurred.

Similarly fruit drop reductions, ranging from 25 to 90 per cent were obtained in 13 plots of Vaccaria, using 2, 4-D sprays of 25, 50, or 75 pounds per acre.

(Continued on page 2)

New Vegetables For California Farms Result Of Research
Glenn W. Davis

A number of varieties of vegetables have been developed in recent years, either individually or jointly by the California Agricultural Experiment Station and the United States Department of Agriculture. Some of the varieties investigated in this study have been available for several years. Others are of more recent origin.

Cantaloupes
Powerful Mildew Resistant No. 46 is resistant to both forms of the powdery mildew but is not resistant to downy mildew. It is recommended as a resistant type.

Powdered Mildest Resistant No. 3 is resistant to both forms of the powdery mildew. Under good cultural conditions it has protected over 99 per cent of the area. No high quality is reflected in refrigeration readiness of 13 of 12 14 or some per cent solid sol. We give the credit to the fact that in general as some varieties nos it is completely immune from mildew. It is mildew and heat resistant in the first indication of the "skin" that they tend to become. Further studies are needed to determine the effect of these varieties on other foliar diseases.

Powdery Mildew Resistant No. 6 and 7 are resistant to both forms of the powdery mildew and are well shaped. It has a larger seed cavity than No. 3, and the flesh has less bitter. It is resistant to downy mildew. It is a small oblate melon and in comparison with No. 5 and No. 6 is somewhat later in maturity. The seed cavity and flesh are comparable to No. 6.

(Continued on page 4)

Investigations On The Control Of Cordling Moth On The Payne Walnut In Central California  
A. F. Milchbach and W. W. Middlekauff

The codling moth, Carpocapsa pomonella, occurs throughout California and is one of the most important pests of walnuts.

In southern California investigations on the control of this pest have been conducted by members of the entomological staff at the Citrus Experiment Station, Riverside, while in central California the study has been carried out by members of the entomological staff at Berkeley.

If the early spray is neglected, observations have shown that under conditions of severe attack, 25 per cent or more of the walnut crop may be infested before the end of May. This will illustrate the importance of applying an early spray in those areas where the codling moth is a major pest.

Powders and sprays used in the study, are indicated by the white arrows.

Walnuts cut through blossom end to reveal young codling moth caterpillar injury to developing nuts. The caterpillars are indicated by the white arrows.

The information contained in this report covers only the work done by the Berkeley station and is applicable to central California conditions.

The investigations were started in 1943 and have been conducted primarily at Lindon on the Payne variety of walnut.

Timing Spray Applications
A study of the habits of the codling moth in relation to the timing of spray applications was undertaken.

 moth flights have been determined through the utilization of bait pans for trapping the adults. Records for the years 1943 to 1946 inclusive show that there are two broods of moths that must be considered. The first occurs in late April or early May and the second in July.

In order to protect the walnut crop from the first brood it is necessary to apply a spray in early May, at a time when the developing walnuts are still very small. Standard lead arsenate used at the rate of 4 pounds to the 100 gallons of water has been the standard insecticide in use. In order to obtain satisfactory control with this material a second spray is necessary.

The codling moth is resistant to form No. 1 of the standard lead arsenate spray, but is rather tolerant of the arsenate of lead. In order to avoid this hazard it has been used in combination with a commercial basic zinc sulfate safer that contains 50 per cent zinc expressed as metallic.

A second standard lead arsenate spray of the same composition is suggested against the codling moth then is basic lead arsenate.

In codling moth infested trees, it is necessary to keep the trees well watered. In areas where trees are dry up on the trees well in advance of harvest.

Nevertheless, these spray programs have resulted in good control of the codling moth infestation in the harvested crop and is not likely to be serious. Nevertheless, these spray programs have resulted in good control of the codling moth infestation in the harvested crop and is not likely to be serious.

For substituting standard lead arsenate for basic lead arsenate to avoid the added expense.

(Continued on page 3)

Vitamin A Content Similar In Yellow Or White Butterfat  
A. W.Begin

A conclusion drawn in error some years ago is that milk from cows fed yellow corn was distinctly superior to milk from cows fed white corn.

Codlin moth injury to the walnut crop is generally well marked. Where sprays are thoroughly mixed before the nuts at the blossom end, and the majority of these nuts are doubly whether the results justify the added expense.

In 1946 a number of growers in the Lodi area applied the standard lead arsenate treatment to at least a portion of their planting. No injury whatever was reported and the program will be further tested on a commercial scale in 1947. However, unmitigated results obtained for substituting standard lead arsenate for basic lead arsenate must wait until the treatment has been further subjected to the test of time. Under no conditions should it be used.

(Continued on page 2)

Granule  
Agriculture  
JUNE, 1947  
Vol. 1  
No. 7  
Progress Reports of Agricultural Research, published by the University of California College of Agriculture, Agricultural Experiment Station  
Arable, Row-crop, Late Experiment, Box 12, Berkeley  
Mrs. Helen S. Prince, University of California College of Agriculture, Agricultural Experiment Station  
Frederick D. Proctor, Supervising State Agronomist  
Elizabeth D. McFarland, Assistant State Plant Pathologist  
This feature will be continued in future issues.

Processin Milk Powders For Their Particular Uses  
Hodge Shipkote

The first successful milk drying process was the atmospheric double drum dryer.

The advantage of this dryer is its simplicity, which makes it the cheapest on the market. The process requires no condenser, which makes it the cheapest on the market. The process requires no condenser, the milk powder made from precondensed milk has much better keeping qualities than milk from fluid milk.

The spray drying process became commercially successful after the introduction of the milk drying machine. Whole milk powder made from precondensed milk has much better keeping qualities than milk from fluid milk. The particles of the precondensed milk are smaller and heavier and present a much smaller surface of exposure to the air.

Keeping Quality Improved
Elimination of upper and iron contamination resulted in a real improvement in keeping quality. In spite of this, and other improvements, it was not possible to keep whole milk powder at room temperature for more than three to six months without discoloration, or a tallowy flavor. It was evident that this flavor was caused by oxidation of the unsaturated fats in whole milk powder.

Protecting the flavor score of the powder against the amount of oxygen absorbed, and the critical level of oxygen absorption to be around 0.02 per cent of powder. This meant it would be necessary to remove the air from the can of whole milk powder to reduce the total remaining free oxygen to below 0.02 cc.

(Continued on page 3)
Pretreatment And Wrapping Of Frozen Pack Meats Studied For Effects On Storage Qualities

W. V. Cremon

It is well established that the temperature of freezing meat should be as low as possible. It should be 0 Deg. F or lower for longest storage.

Lamb chops, beef steaks and pork chops were vacuum packed and stored at 0 Deg. F for the following periods:

1. Fresh pork, 7-14 months.
2. Fresh pork, 6-8 months.
3. Lamb and poultry, 8-10 months.
4. Lamb, beef and pork, 12-14 months.
5. Other ground meats—hamburg and lamb, 4-6 months.

To avoid moisture accumulation and well wrapped should keep satisfactorily for the following periods:

1. Fresh beef, 12-14 months.
2. Seasoned sausage, 2-3 months.
3. Lamb and poultry, 8-10 months.
4. Other ground meats—hamburger, 4-6 months.

In our experiments several wraps were compared, with interesting results.

Aluminum Foil

Aluminum foil proved superior to paper and plastic. It turned out that the wrapped lambs were well protected from the cold and kept in the animalcell blank.

In conclusion it may be said that the effect of this heat treatment varier

Pretreating Meat by Dipping it into Acid Solution

Several cans of hamburger were opened after more than 24 months storage showing that the impact is uniform.

The water-binding quality of non-fat milk was decreased by 20 percent if it is not properly packed and stored.

Plant Growth Regulators For Control Of Drop Of Valentia And Navel's Subject Of Research

W. F. Widdowson

Analyzes of the fruit harvested from trees sprayed with 2,4-D for preharvest drop control have shown that undesirable effects on the treat-

The cost of the 2,4-D in 30,000 gallons of an 8 ppb spray is about $100 per acre. The cost of a 2000 pound tin of 2,4-D would be sufficient to treat a 10 acre

Dipping Experiments

Samples were dipped in several anti-oxidant solutions before freezing.

The technique used consisted in dipping the meats in the solution draining, wrapping, freezing and storing.

Of the dips compared in these experiments the dilute—0.5 per cent of meat with oxygen, had the greatest practical value for use in (Continued from page 1)

2,4-D In Combination

DDT has been applied and the nut aphid population has, on occasi-

Over most of the Sacramento Valley it is unlikely that anyone will be

2,4-D In Combination

DDT has been applied and the nut aphid population has, on occasi-

Over most of the Sacramento Valley it is unlikely that anyone will be

2,4-D In Combination

DDT has been applied and the nut aphid population has, on occasi-

Over most of the Sacramento Valley it is unlikely that anyone will be

2,4-D In Combination

DDT has been applied and the nut aphid population has, on occasi-