Research On Granulation Of Valencia Oranges Shows Only Limited Control Measures Exist

E. T. Bartholomew, W. B. Sinclair and F. M. Turrell

Granulation of Valencia oranges is not caused by a fungus, a virus, or a bacterium. It is definitely related to the growth activity of the tree.

Since 1930 over 200,000 Valencia oranges from approximately 2,000 trees in 75 groves have been examined in studies to determine cause and possible means of control of granulation.

The cutting of a total of 61,000 fruits over a period of seven successive years showed the following percentages of fruits of different degrees to be granulated:

<table>
<thead>
<tr>
<th>Fruit Size</th>
<th>Per Cent Granulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>100's</td>
<td>105%</td>
</tr>
<tr>
<td>200's</td>
<td>94%</td>
</tr>
<tr>
<td>300's</td>
<td>5%</td>
</tr>
<tr>
<td>400's</td>
<td>5%</td>
</tr>
<tr>
<td>500's</td>
<td>2%</td>
</tr>
<tr>
<td>600's</td>
<td>1%</td>
</tr>
</tbody>
</table>

The average amount of granulation produced by all rock dust was 76% at Tustin and 134% at Riverside. The percentages given here are relatively high because only large fruits were examined.

Some trees in a given grove consistently produce little granulation, others produce much granulation, while still others may produce little or none. In addition, the occurrence may vary in some individual fruits but not throughout the entire grove.

There is no single factor which explains all the variability in the amount and severity of granulation. However, freezing temperatures may cause an increase in the amount of granulation in some individual fruits but not throughout the entire grove. Granulation is probably not caused by a virus. It is characteristic of California citrus.

Hormone—hydroxy cyanide—tested at the same time, did not affect the production of granulation.

(Continued on page 4)
Value of Poultry Improvement Plans To Producers And Buyers
Of Chicks, Poult's, Eggs Defined
A. S. Rosenthal

"Cautious emporer, let the buyer beware," is an old watchword which challenges poultrymen buying chicks, poult's, or hatching eggs.

The participants in the National Poultry and Turkey Improvement Plans have secured official protection for the prevention of purchases of untested poultry. This protection, based as it is on much research and experience, is assuming more importance as the minimum requirements that birds meet certain minimum requirements as tested. These requirements are also the U.S. Approved Pullorum Clean Egg standards. The U.S. Pullorum Test is a valuable protection for buyers of chicks, poults, or hatching eggs. "U.S. Pullorum Clean" eggs have passed the official test for birds meeting the minimum qualifications for certifying them as fit for breeding purposes. The Department of Agriculture and the states have prepared the official test, which is known as the U.S. Pullorum Test.

The National Poultry and Turkey Improvement Plans are projects sponsored by the Department of Agriculture to improve the quality and quantity of poultry and to maintain a high level of public health. They are designed to improve the quality of the poultry industry by assuring the consumer of the highest quality products. The plans are administered by the National Association of Poultry Improvement Plans and the National Turkey Improvement Plans.

The plans are voluntary and are not intended to supplant state and local health and welfare laws. The plans are designed to protect the health of poultry and the public by assuring the consumer of the highest quality products.

The plans are administered by the National Association of Poultry Improvement Plans and the National Turkey Improvement Plans.

The plans are voluntary and are not intended to supplant state and local health and welfare laws. The plans are designed to protect the health of poultry and the public by assuring the consumer of the highest quality products.