

is responsible for the green color of young tomato fruits. The gradual decomposition of green pigment replaced to some degree by yellow pigment accounts for the progressively paler green color of expanding fruits. As the fruits ripen, carmine-red pigment develops. In the fully ripened fruits the green pigment has disappeared almost completely and modifies only slightly the color of the fruits.

The red color in tomatoes develops well at temperatures between 50° and 80° F. No pigment develops at 39° F. and little or none develops at 86°-95° F. Thus, under abnormally high temperatures or direct exposure to the sun, the characteristic rich color of the fruits may not develop. The color of fruits of yellow varieties is due to orange-yellow (carotin) pigment in the flesh. Yellow flesh showing through colorless skin produces lighter colored fruits than yellow flesh showing through yellow skin. Those with colorless skin are known as yellow varieties. Those with yellow flesh and yellow skins are known as orange.

For those horticulturists who are interested in specific color descriptions, are listed the accompanying numerical color designations\* assigned by Boswell and others (7) to full ripe fruits of nine of the principal varieties of tomato.

**Quality**—Varieties differ somewhat in quality and likewise the quality of any variety is influenced by local environment. Very high or very low temperatures prevent normal development of the red pigment. Growth cracks become progressively more severe if the soil moisture supply is abundant during periods of low evaporating power of the atmosphere. High temperatures and abundant sunshine are necessary for the attainment of the amounts and proportions of total solids, sugars and acids associated with high quality of tomato products.

### ABRAHAM LINCOLN

A distinct, extremely late maturing variety with very heavy dark green foliage and very large red fruits which ripened only a small portion of its crop in a trial near Rochester, Mich., in 1923.

### ABUNDANCE

One of the so-called European salad varieties which bears many-fruited clusters of rather small round red fruits of uniform size and shape.

### ACME

**Synonyms or Similar Varieties**—Early Melrose; Early Minnesota; Essex Hybrid; Potomac; Tall Champion.

**Description**—A standard variety of upright spreading growth. It is medium early and bears flattened globe-shaped, well colored pink fruits of medium size. The fruits are commonly about 2½ inches in transverse diameter, 2 inches polar diameter and weigh 4 to 6 ounces. Acme has been found rather susceptible to blossom-end rot in the trials at Rochester, Mich.

**History**—Acme was introduced by Livingston in 1875 (32) and enjoyed a long popularity as a home garden and shipping variety. It is still offered by some seedsmen but has been largely superseded by Gulf State Market which is better for all purposes.

\*Numerical color designations are those used on the color plates in "A Dictionary of Color" by Maerz and Paul, New York, 1930.