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# SUNRISE SOLO

## A Different Colored Solo Papaya

R. A. HAMILTON  
and P. ITO

### **THE AUTHORS**

R. A. HAMILTON is Horticulturist at the Hawaii Agricultural Experiment Station and Professor of Horticulture, University of Hawaii.

P. Iro is Assistant Horticulturist at the Hawaii Agricultural Experiment Station, University of Hawaii.

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'Sunrise Solo,' an improved, high-quality 'Solo' papaya selection with reddish-orange flesh, is an inbred strain resulting from a cross made between two inbred strains in 1961 at the University of Hawaii, Poamoho Experimental Farm. 'Line 9,' a 'Solo' strain having orange-red flesh and good plant characteristics but producing fruit of low sugar content, was crossed with the 'Kariya Solo,' a good standard-type growers strain from Oahu with yellow flesh and high-quality fruit. Self pollination and progeny testing were continued for three successive generations during which the progeny was found to be true breeding in plant and fruit characteristics. The resulting new 'Sunrise Solo' combines the orange-red flesh color and precocious, low-fruited habit of 'Line 9 Solo,' with excellent quality, high sugar content, and the desirable 'Solo' flavor of 'Kariya Solo.' The attractive new orange-red flesh color of 'Sunrise Solo' is compared with that of the two parental types in Figure 1. Fruit shape and seed cavity are also compared with those of the parental types.

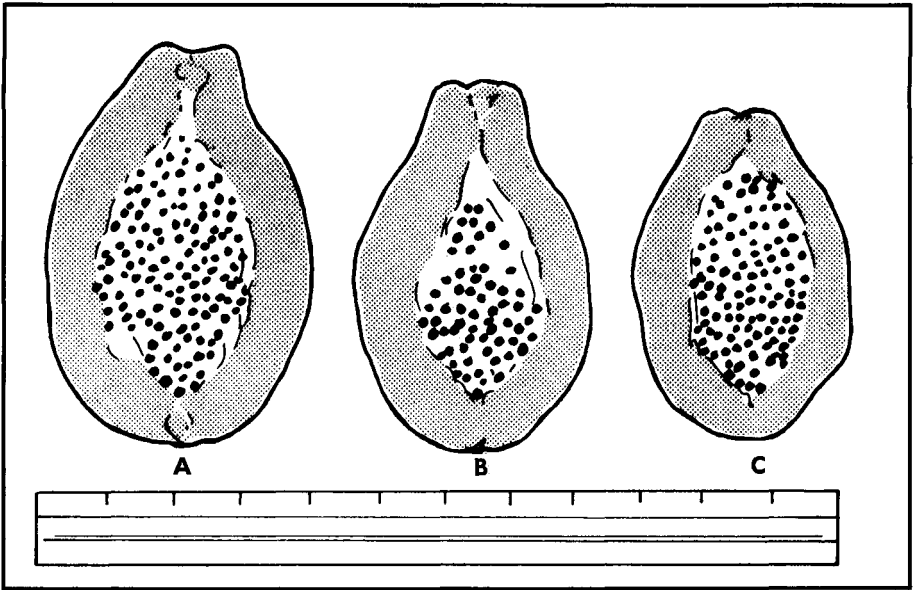


FIGURE 1. Typical hermaphrodite fruits of 'Sunrise Solo' and parental strains: (a) 'Kariya Commercial Solo,' (b) 'Sunrise Solo,' and (c) 'Line 9 Solo.' (See cover photograph for color.)

### **Description:**

'Sunrise Solo,' formerly HAES 63-22, is a precocious, low-bearing variety maturing its first fruit about nine months after transplanting at a height of approximately 3 feet. Carpellody (cat-facing) is almost completely absent and there is little or no sterility, depending on season and growing conditions.

Fruit from hermaphroditic plants is pyriform in shape with a slight neck and generally smoother with less ribbing than other 'Solo' strains. The seed cavity is not as deeply indented or star-shaped as that of other 'Solo' strains and as a consequence it is easier to remove the seeds. Flesh is sweet with mild but distinct 'Solo' flavor and aroma. Total dissolved solids content ranges from 12 to 17 percent, with an average of about 15.5 percent under good growing conditions.

Fruits are more uniform in size and shape than other 'Solo' strains with few or usually no carpelloid (cat-face) fruits setting in warm protected locations at elevations below 700 feet. Flesh texture is firmer and average fruit size smaller than either parent. Fruits produced at Poamoho Experimental Farm on Oahu in 1967 averaged 15 ounces, while in 1965 those from Malama-Ki averaged about 22 ounces. Fruit size can be controlled to some degree by regulating chemical fertilization and/or water supply but in general, when the same strain is grown both at Puna and on Oahu, fruit size is considerably larger at Puna. 'Sunrise Solo' on an average produces larger fruits than so-called 'Kapoho' strains grown in Puna for export.

Fruit quality of 'Sunrise Solo' is similar to that of commercial 'Solo' strains but superior to 'Line 9,' often referred to as 'Pink Solo' or 'Watermelon Solo.' Four 'Sunrise Solo' samples of 50 fruits each, tested during September and October of 1967, averaged 15.5 percent total dissolved solids. Total dissolved solids gives a useful objective measure of sweetness, providing a good approximation of sugar content in papaya fruits.

As grown at Malama-Ki Experimental Farm in Puna over a four-year period, 'Sunrise Solo' showed neither sterility (bearing skips) nor carpelloidy. Some sterility, however, occurred in October 1967 at Poamoho Experimental Farm beginning at the same time that other 'Solo' strains grown in this locality developed sterility. This sterile period, though of short duration, means that 'Sunrise Solo' can develop bearing skips under environmental conditions that initiate sterility. The sterile period noted was, however, of shorter duration than that of commercial strains grown on Oahu or export strains of 'Solo' from Puna. Under good growing conditions, 'Sunrise Solo' has shown less sterility than five other 'Solo' strains tested.

'Sunrise Solo' is considered a suitable red-fleshed papaya for local markets. Trial plantings in specific growing areas should precede plantings for export because firmness, texture, and fruit size vary considerably with location. Fruit size of 'Sunrise Solo' is furthermore known to be somewhat larger on an average than standard Puna export strain papayas. 'Sunrise Solo' fruits are intermediate in size between 'Line 8 Solo' and Puna export strains. Fruit texture, shelf life, and shipping quality are similar to those of other 'Solo' strains and similar care must be exercised in picking, handling, and marketing.

### **Introduction Procedures:**

Small amounts of foundation seed of 'Sunrise Solo' may be purchased from the University of Hawaii Seed Distribution Service which may be contacted through the Department of Horticulture of the University at either Honolulu or Hilo.

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COLLEGE OF TROPICAL AGRICULTURE  
HAWAII AGRICULTURAL EXPERIMENT STATION  
HONOLULU, HAWAII**

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**THOMAS H. HAMILTON**

President of the University

**C. PEAIRS WILSON**

Dean of the College and  
Director of the Experiment Station

**G. DONALD SHERMAN**

Associate Director of the Experiment Station