

# Selections of Blood Oranges for Arizona Growers

*H. H. McDonald and E. Fallahi*

## ABSTRACT

*Interest in growing blood oranges in Arizona has been increasing in recent years, especially for producing fruit for sale in roadside stands. The Arizona Cooperative Citrus Registration Certification Program now has four selections from which to choose: 'Moro', 'Tarocco', 'Sanguinelli', and 'Ruby'. Each one has distinct advantages and disadvantages that should be considered before making a selection.*

## INTRODUCTION

Pigmented or blood orange varieties are believed to have originated in the area of the Mediterranean Sea. The major production of these varieties is in the region in which they originated. However, because of their inconsistency in coloration when grown in most citrus-producing areas of the United States, it has been difficult to establish standardization for marketing. Since fruit sold locally in roadside stands do not have to go through the standardization process, a demand has developed for growing the fruit for this purpose.

## MATERIAL AND METHODS

Moro has been the most popular blood orange variety, based on the number of buds sold under the Arizona Cooperative Citrus Registration Certification Program. Moro has a deep red (blood) flesh color with medium-sized fruit that ripens early and bears well in this area. It has a good flavor, but tends to granulate when grown on fast-growing rootstocks, such as rough lemon. Trees on sour orange rootstock are now being grown on the Yuma Mesa. It is hoped that Moro fruit quality will improve on this rootstock.

'Tarocco' is also a deep-blood variety with medium-large to large fruit. It is later in ripening, lower in production, and begins to produce later. Trees planted in the foundation block on this station were 10 years old before fruiting. If yield were not a problem, this would be a good choice since the fruit has the best size and a flavor most people prefer. However, trees are not as vigorous on sandy soils as Moro is.

'Sanguinelli' is in the deep-blood class, along with the previous two varieties. The tree produces heavily, but the fruit is small. Fruit ripens later than any of the other three and is inferior in taste. Sanguinelli trees grown on sandy soil are less vigorous than either Moro or Tarocco.

'Ruby' bears medium-sized fruit that ripens in mid-season with an excellent flavor. The trees are the most vigorous of the four choices and are productive. The disadvantage of this variety is lack of color even when grown in the desert. Most years, many fruit lack any pigmentation; others have only small streaks of red. Under favorable conditions, many of the fruit do color well, but not often enough to be acceptable for marketing as a blood orange.

## RESULTS AND DISCUSSION

Budwood has been issued under the Arizona Cooperative Citrus Registration Certification Program to participating nurseries from 'Moro', 'Tarocco', 'Sanguinelli', and 'Ruby'. The number of buds issued from each variety was proportional to their popularity in the desert. The greatest number of buds have been from the Moro orange trees with 9,808 buds, followed by Tarocco with 2,383 buds, Ruby Blood with 1,269 buds and Sanguinelli with 275 buds. Since nurseries make their budding selections from the demand of their customers, this should be a valid guide for choosing the best selection for Arizona growers.

To be certain of getting the variety/rootstock combination you desire grown under the Arizona Cooperative Citrus Registration Certification Program, be sure to ask for a blue-tagged tree. This will also assure that the tree was grown from a source that has successfully met all requirements for: 1) freedom from known viruses or virus-like disorders; 2) freedom from injurious pests and diseases; and 3) trueness to horticultural type.

Observations are continuing on tree growth and pigmentation of blood orange varieties. Monitoring various environmental factors, particularly temperature and sunlight effects on color development, will proceed on these and other pigmented oranges.