

## 'Flordaprince' Peach

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Low-chill peach breeding began at the University of Florida in 1953 through the efforts of R. H. Sharpe. The main goal was to develop cultivars of fruit quality and size equal to cultivars grown in temperate zones. Low-chill adaptability was used from 3 sources: the feral Spanish germplasm introduced through St. Augustine, from which 'Jewel' and 'Waldo' were locally named representatives; 'Hawaiian,' an introduction from south China; and 'Okinawa' a seed introduction from the Ryukyu Islands. The low-chill germplasm was hybridized with temperate zone cultivars and advanced selections from other breeders, but mainly with germplasm available through the Southeastern USDA Station in Georgia. Segregating  $F_2$  populations gave rise to selections that were intercrossed and hybridized with other high fruit quality temperate zone germplasm to produce advanced generations and form the basis of the current breeding program from which 'Flordaprince' was selected. 'Flordaprince' was named in honor of Victor E. Prince, the USDA Georgia peach breeder, because he cooperated for many years in the hybridization program in which crosses and backcrosses were made to incorporate low-chill genes into the best temperate-zone peach germplasm.

Reflecting on pedigree charts of the newest cultivars and selections one can speculate on the probable source for several important traits. High fruit set ability in low-chill germplasm came from 'Okinawa.' Prior to introduction of 'Okinawa' blood into the program, most selections shed a high percentage of their flower buds prior to opening or opened weakly and set a low percentage of fruit. 'Springtime' and 'Earli-

gold' were the main contributors of early ripening as was 'Panamint,' the original source of the nectarine gene. 'Flordaprince' has both 'Okinawa' and 'Earligold' in its pedigree.

Ten nectarines and 21 peaches have been released by the University of Florida low-chill breeding program (1). 'Flordaprince' was the first low-chill peach of modern day fruit quality to be cultivated worldwide in subtropical climates from Australia to Zimbabwe. It is grown outside Florida in southern Texas and California. 'Flordaprince' has been introduced into over 80 countries and territories and has been commercialized in over 20. 'Flordaprince' received in 1991 the prestigious "outstanding cultivar medal" from the Fruit Breeding Working Group of the American Society for Horticultural Science.

'Flordaprince,' tested as 'Fla. 5-2,' originated from complex parentage and was selected in 1975 by R. H. Sharpe and W. B. Sherman. It was named and released in 1982 for grower tests. The original description proved to be accurate, "It has fruited well where the coldest month averages 16 to 17°C" and "Trees have a winter chilling requirement of about 150 hours" (2). 'Flordaprince' peach proved that low-chill peaches with high fruit quality could be produced in subtropical climates. Its two negative factors are that it is highly susceptible to bacterial spot (*Xanthomonas campestris* pv. *pruni*) and, when grown in climates receiving more than about 400 chilling units, fruit tend to russet and crack at the terminal end. Susceptibility to bacterial spot has limited the use of 'Flordaprince' as a parent in the Florida program. A high percent-

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age of 'Flordaprince' open-pollinated seedlings resemble the parent strikingly and 'Flordaprince' strongly transmits dark red fruit stripes to many of its hybrid progeny.

'Flordaprince' has high flavor for an early-ripening peach (about 85 days from bloom to ripe). The fruit are yellow-fleshed, firm, and round with a medium small stone. The tree tends to be upright but is easily spread by pruning. Flower buds are profuse and flowers are showy. Early thinning is required to obtain marketable size of 2 inch plus fruit diameter.

Research with 'Flordaprince' in the subtropics has contributed much to

current knowledge of peach growing in mild climates where growing seasons are long and little winter chilling occurs. These contributions include research areas such as dormancy, forced flowering and production (including out of season and biannual cropping), fruit set under high temperatures, and obvious nutritional, pests, and cultural uniqueness.

### Literature Cited

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## Early Performance of Four Apple Cultivars on Mark and Other Rootstocks in Maine<sup>1</sup>

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### Abstract

In 1985, a study was established to compare the growth and fruiting of 'Cortland,' 'Empire,' 'Delicious' and 'McIntosh' apple (*Malus domestica* Borkh.) on Mark and MM.111 rootstocks. 'Delicious' and 'McIntosh' on M7A and M.26 were also included. Tree survival for the first six years was 90% or greater for all combinations except 'Empire'/MM.111, 30% of which died as a result of winter injury. Burrknots occurred on all cultivar/rootstock combinations, with the fewest on 'McIntosh'/MM.111. Early flowering was greatest with 'Empire' and 'McIntosh' on Mark. M.26 also induced early flowering, while M.7A induced early flowering with 'Delicious' but not with 'McIntosh.' Cumulative yield was highest with 'McIntosh' on Mark and M.26 and with 'Cortland'/Mark. The lowest cumulative yields were recorded for 'Empire'/MM.111 and for 'Delicious' regardless of rootstock. Tree leaning was severe for trees on Mark or M.26, and growth proliferations at the soil line were observed on all cultivar Mark combinations.

### Introduction

In 1979, Michigan State University released Mark (formerly MAC-9) root-

stock to nurseries as a potential new apple rootstock (1, 10). Mark is becoming widely propagated and planted throughout the apple industry. Most of the research on Mark has been with the 'Delicious' cultivar (1, 4, 5, 8, 9) and little is known about the performance of Mark with other cultivars. The objective of this study was to evaluate the performance of Mark in comparison with other rootstocks using cultivars of importance to northern New England.

### Materials and Methods

In May 1985, trees each of the following cultivar/rootstock combinations were planted in a randomized complete block design with ten replications: 'Cortland' and 'Empire' on Mark and MM.111; 'Red Chief Delicious' (Campbell strain) on Mark, MM.111,

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