

# CULTIVAR & GERMPLASM RELEASES

## 'Priam' Apple<sup>1</sup>

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'Priam' is a new fall red apple with resistance to apple scab caused by *Venturia inaequalis* (Cke.) Wint. ripening close to 'Jonathan' and about one week before 'Delicious' (Fig. 1).

'Priam' is the third apple cultivar (1, 2) to be introduced from the cooperative breeding program carried out by the Agricultural Experiment Stations of Indiana, Illinois and New Jersey; the U.S. Department of Agriculture; and informally cooperative with a number of other states and countries, namely France in this particular case. The prefix PRI in the name is an acronym formed from the three institutions involved, viz. Purdue, Rutgers, Illinois. The apple was named for Priam the last king of Troy, the father of Paris. The selection has been tested in France and England. It does not show a large area of adaptation but good results have been obtained in some locations in France. High acidity and attractiveness of the fruit are the main characteristics which make this selection outstanding and have led us to release it.

### Origin

The original seedling was planted in 1952 in the breeding orchard of the Purdue University Agricultural Experiment Station, Lafayette, Indiana. It was produced from crossing the seedling 14-126 as the seed parent and 'Jonathan' as the pollen parent in 1951 at Lafayette Indiana (Fig. 2). The

seedling first fruited in Sept., 1956. It was introduced into France from the John Innes Institute (England) in 1958 and had been chosen in 1965 for a mutation breeding experiment which led to the observation of 200 trees.

### Description

The tree is moderately vigorous, somewhat spreading, regularly and heavily cropping. It shows slight mildew susceptibility, similar to 'Golden

'Delicious' and much less than its parent, 'Jonathan'. It flowers 1 week before 'Golden Delicious'.

The fruit has fine dessert quality but it may be too acid for U.S. tastes before storage. The texture is crisp and the flavor pleasant. The attractive fruits have a green-yellow ground color with 60-90% bright red over color principally as a blush (Fig. 1). They should be picked a week or two before 'Delicious'. Fruits can be stored at 2°C for at least 3 months. The optimum edible quality is from Oct. to Jan.

The following detailed description of the flower and fruit follows the "Guidelines for the conduct of tests for distinctness, uniformity and stability" from the International Union for the Protection of New Plant Varieties (U.P.O.V.), and uses the color designations according to the Colour Chart of the Royal Horticultural Society.



Fig. 1. 'Priam' apple.

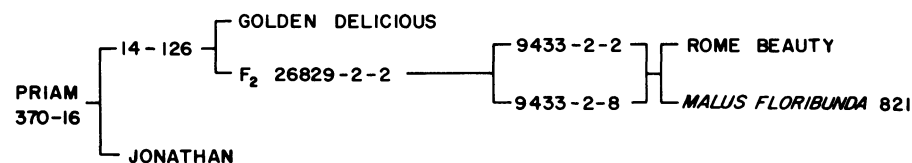


Fig. 2. Pedigree of 'Priam'.

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## FRUIT

*Shape:* round-conical, very regular.

*Size:* axial diam 6.0 to 7.0 cm (2½ to 2¾ inch), transverse diam 6.5 to 7.5 cm (2½ to 3 inch).

*Color:* undercolor "green-yellow" (plate 1 group D) to "yellow" (plate 3 group D); overcolor 60 to 90% medium red (plate 47 group B to plate 46 group C).

*Skin:* smooth, without bloom, weakly waxy, small lenticels, moderately tough. No russetting.

*Stem:* short, 0.8 cm (3/8 inch), below level of cavity, medium thickness.

*Cavity:* deep (18 mm), broad (35 mm), acute, slight streaky russet.

*Basin:* medium depth, narrow, without ribbing.

*Calyx:* short, erect, convergent, sepal bases free.

*Calyx tube:* Y shaped, closed.

*Stamens:* median.

*Pistil:* persisting, not fleshy.

*Core:* medium size, distinct line, flat-round.

*Carpels:* cell length short, medium breadth, round, open narrow aperture in transverse section.

*Seeds:* medium number, medium size, much longer than broad, moderately thick, obovate, apex acute, pale buff brown.

*Flesh:* "yellow" (plate II, group D), fine, juicy, medium sweet, acidity strong, aromatic, good quality.

*Time of fruit maturity* (for picking): midseason, 1-2 weeks before 'Delicious'.

*Time of fruit ripening* (for eating): midseason, Oct. to Jan.

*Use:* dessert.

## PLANT

*Tree:* medium vigor, spreading habit, open, tip bearing.

*Leaves:* narrow, length-to-width ratio = 1.9, lanceolate, biserrate, long, apex acuminate, rounded base, deep green, wavy edge, petiole length long and green, narrow and long stipules.

### Availability

Budwood is presently available from the Station d'Arboriculture Fruitiere, INRA, Beaucouze, Angers, France.

### Literature Cited

1. D. F. Dayton, J. B. Mowry, L. F. Hough, Catherine H. Bailey, E. B. Williams, J. Janick, and F. H. Emerson. 1970. 'Prima' - an early fall red apple with resistance to apple scab. *Fruit Vars. & Hort. Dig.* 24:20-22.
2. E. B. Williams, J. Janick, F. H. Emerson, D. F. Dayton, J. B. Mowry, L. F. Hough and Catherine Bailey. 1972. 'Priscilla', a fall red apple with resistance to apple scab. *Fruit Vars. & Hort. Dig.* 26:34-35.

# Wis. HBR 40 and Wis. HBR 72 Bean Germplasm

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Two processing lines of bean (*Phaseolus vulgaris* L.), WIS. HBR 40 and WIS. HBR 72, were released in 1970. They combine, for the first time, resistance to both race 1 and race 2 of the bean halo blight disease caused by *Pseudomonas phaseolicola* (Burkh.) Dows.

### Origin

Wis. HBR 40 was derived from a cross between a Wisconsin breeding line carrying University of Idaho 'Red Mexican No. 3' resistance to *P. phaseolicola* race 1 and selected plants of P.I. 150414 which are resistant to race 2. The resultant bean was then crossed and backcrossed to a bush blue lake strain.

Wis. HBR 72 was derived from a cross between a Wisconsin strain (with University of Idaho 'Red Mexican No. 3' resistance to *P. phaseolicola* race 1) and P.I. 150414. The most promising progenies were crossed and backcrossed to 'Slimgreen'.

### Description

Wis. HBR. 40 is a bush blue lake type

that is similar in maturity and in plants and pod type to 'Tempo' but pod color may be slightly darker. Wis. HBR 72 is a conventional processing type with good bush habit.

### Outstanding Characteristics and Uses

Wis. HBR 40 combines good vigor with dark green pod color, a bush plant habit, and resistance to both races of the halo blight pathogen. Flavor upon canning has been good, however, color was quite dark.

Wis. HBR 72 combines good vigor and plant characteristics with excellent resistance to both races of the halo blight pathogen. Canning tests indicate acceptable quality.

### Availability

Small amounts of seed are available and are offered free of charge to private and public researchers primarily for use as parental material in breeding programs.



Examples of greenhouse-grown Wis. HBR 40 (left) and Wis. HBR 72 (right) bean plants.