

UC Davis Prune Cultivar Development Program

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Introduction:

The development of new, acceptable or superior, prune cultivars will increase the efficiency of California prune production and give some protection against the risks involved with a monoculture. The California prune industry is also facing increasing marketing competition from other regions of the world and must seek ways to reduce production costs to stay competitive. Thus, the industry would also benefit from the development of new dried plum cultivars that have cost saving characteristics such as improved tree structure that would require less pruning, improved fruit dry matter content that would decrease drying costs, and increased tolerance to pests and diseases.

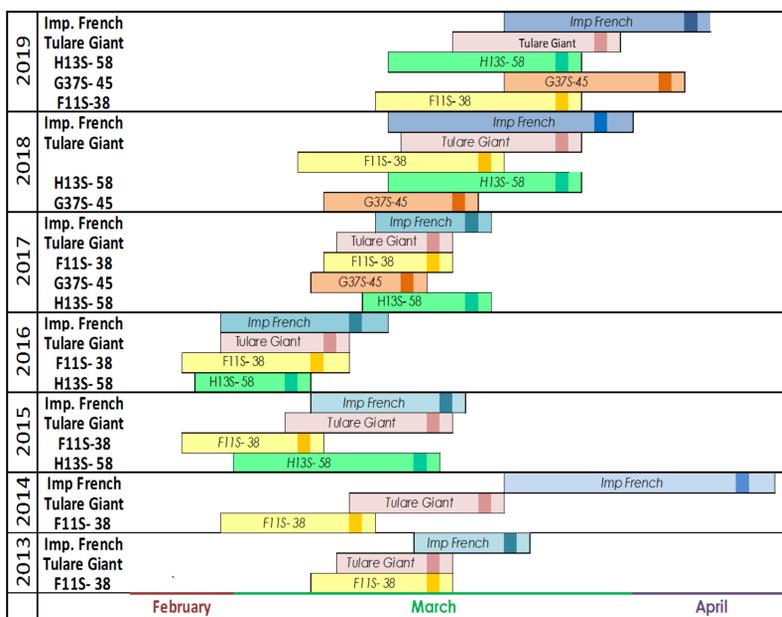
Cultivar Improvement Objectives

To develop new prune varieties, through traditional horticultural breeding methods, with the following characteristics:

- Fruit characteristics similar to 'Improved French' so the industry can seamlessly incorporate new cultivars into their handling and marketing systems
- Tree characteristics that reduce labor costs involved in producing prunes.
- Increased fruit quality and fruit characteristics that increase efficiency and quality of drying and processing.
- Earlier or later bloom dates and tolerance to high temperatures during bloom.
- Earlier/late fruit maturity dates than "Improved French" prune.
- Increased tolerance/resistance to disease.
- New specialty traits; with the dried product being equal or improved in quality to "Improved French", but different in taste and/or color.



The annual Prune Breeding Summer Field Meeting at the Wolfskill Experimental Orchard. All industry members are welcome to attend, it is usually the last weekend in July.



Full bloom timing (dark part of bar) and spread of bloom for several recent prune selections compared with 'Improved French' over six years.

Top prune cultivars presented to the California Prune Board in December 2019.

Name	Harvest date from Imp. French	Weight (avg g/frt)	Pressure	Sugar in Brix	Count per pound	Dry Away Ratio	Bloom Date (Days from Imp. French)
G37S-45	-15	30.1	3.8	25.0	47.8	2.77	-1
H13S-58	14	21.7	4.6	30.2	58.4	2.6*	-8
I11N-9	-22	24.5	5.8	27.9	53.8	2.65	-5
I11N-63	-8	20.5	3.0	28.1	52.9	2.72	-6
I12S-6	0	25.9	5.1	30.5	44.6	2.47	-10
J2N-128	7	23.0	4.8	32.2	52.7	2.55	-6
J2N-79	14	17.5	4.6	22.4	38.1	2.40	-11
J2N-127	0	20.0	6.4	31.5	48.1	2.39	-13
I14N-25	7	25.0	3.3	27.7	41.7	2.74	0

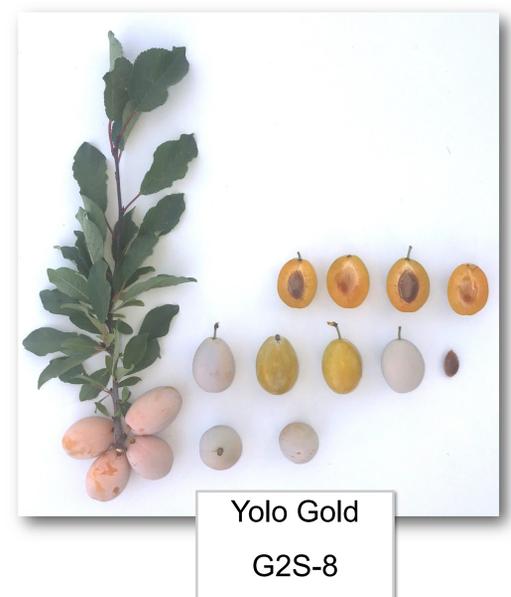
Yolo Gold & Solano Gold

Two cultivars are currently being prepared for public release; Yolo Gold and Solano Gold. Although both cultivars have yellow fresh fruit both dry to a brown color that darkens in storage. Both also can partially dry on the tree and thus can have low dry-away ratios. Both cultivars are just beginning to be evaluated at large scales. They have both been pitted using an Ashlock type pitter and will be dried and evaluated by more processors in 2020. With any new variety, the processors are essential in determining the viability and processability of new items. Trees can be made available for growers to try in their own orchards through a test agreement.

'Yolo Gold' aka G2S-8 is a late harvest yellow fruit has had historically excellent dried fruit attributes. It dries to a nice mahogany color that complements its smooth fruity taste. It has a small, free pit, and a dry away ratio similar to Improved French. It harvests one week after Improved French but blooms 4-6 days before Improved French.



Evaluation	Solano Gold F11S-38	Yolo Gold G2S-8
Bloom	-7 to -14 before Improved French	-4 to -6 before Improved French
Harvest	-20 to -30 before Improved French	One week after Improved French
Typical Dry Away	1.7 to 2.7	3.0
Typical dry count/lb	63-44 ct/lb	50-38 ct/lb
Typical Brix	32.1 brix	23.3 brix



'Solano Gold' aka F11S-38 is an oval yellow fruit with a small neck. It has a great dried appearance and taste. It matures early in the harvest season and will start to dry on the tree thus reducing the dry away ratio. The sugars can get to be as high as 35+ brix and the dry away ratio can be as low as 1.9. This tree consistently produces excellent crops year after year. The fruit needs less drying time than Improved French, likely saving growers money on drying costs.

References:

DeJong T. and S. Castro 2019. 2019 Prune Cultivar Development and Evaluation. California Prune Board Research Report 2019 <https://ucanr.edu/sites/driedplum/files/318590.docx>

DeJong T. and S. Castro 2018. 2018 Dried Plum Cultivar Development and Evaluation. California Dried Plum Board Research Report 2018 <https://ucanr.edu/repository/fileaccess.cfm?article=177437&p=WWMTPF>

