

Recommended Species

Disked Winter Annual Species:



Bell Bean (*Vicia faba* L.)
100-150 lb/seeded acre

Although bell bean is a true vetch, it differs greatly from other vetches with its strong upright growth. It also has a relatively shallow, thick taproot, which may be useful for opening up heavy soils. Bell bean is often used in mixes with vetches, peas, or cereals. Because of its height and because it does not tolerate close mowing, it is often omitted from mixes in frost-prone areas. Bell bean is frequently infested by the bean aphid (*Aphis fabae*), which seldom affects its use as a cover crop. The aphid, which does not attack dried plums, and the presence of extrafloral nectaries, may attract beneficial insects into orchards.



Field Pea (*Pisum sativum* L.)
40-70 lb/seeded acre

Numerous field pea cultivars are available and are most often used in mixes. Those most commonly planted as cover crops include 'Austrian Winter,' 'Magnus,' and 'Miranda.' 'Austrian Winter,' which has pink and reddish flowers, is dormant during cold weather and produces most of its biomass during the spring. However, it usually produces as much biomass as most other legumes if allowed to grow through the spring. 'Magnus' can be distinguished by its large, light- and dark-pink flowers and its large tendrils. Unlike 'Austrian Winter,' 'Magnus' grows rapidly through the winter and matures earlier and is therefore a better choice in orchards that are disked early.



Common Vetch
(*Vicia sativa* L.)
40-80 lb/seeded acre

Common vetch was once the most important vetch species in California, but now woollypod and purple vetches are also frequently used. Common vetch remains dormant through much of the winter, developing nearly all its biomass in March and April. For this reason, it is not the best choice to grow in orchards that will be disked in March. Some growers include common vetch in mixes because it has extrafloral nectaries on the stipules, which provide a readily available source of nectar for beneficial insects. However, the role of nectaries in pest management has not been tested.

Purple vetch has been used commercially since the 1920s for



Purple Vetch
(*Vicia benghalensis* L.)
40-60 lb/seeded acre

forage, cover crops, and green manures. Like woollypod vetch, it produces excellent cool-season growth, but it blooms and matures later than woollypod vetch. Purple vetch leaves are markedly hairy, giving a silvery, downy appearance to shoot tips in the early spring. It also has reddish flowers. Although purple vetch is among the least cold hardy cultivated vetches, in most years it will thrive in all but the coldest mountain locations in California.



Woollypod Vetch
(*Vicia dasycarpa*)
40-60 lb/seeded acre

Lana woollypod vetch is one of the most recently introduced vetch cultivars that grow successfully in California. It was selected and developed by the USDA Soil Conservation Service in cooperation with the UC Davis Agronomy Department from material introduced from Turkey in 1937. It is the earliest flowering and maturing vetch available; in the warmest regions, it may mature by late April, but usually matures in mid- to late May. Woollypod and purple vetches usually produce similar quantities of biomass and nitrogen and are both quite vigorous.



Oat (*Avena sativa* L.)
100-120 lb/seeded acre

Oat is frequently sown in prunes, often in mixes but also in monocultural stands. It tolerates wet and heavy soils better than barley and can also tolerate a wide range of soil types. Under moderate fertility and drainage, it can tolerate a lower pH than barley; it tolerates a soil pH as low as 4.5. However, oat is not as tolerant as other cereals of drought, sandy soils, or cold. Dozens of cultivars have been developed, primarily as forage species. Cultivars vary in their period of flowering -- Montezuma heads as the earliest, followed in descending order by Swan, Sierra, California Red, and Cayuse the latest.

Barley is an inexpensive, fast-growing cereal that produces substantial biomass and competes well against weeds. It produces more tillers at the base than cereal rye and oat. It is the most salt-tolerant cereal and is more drought tolerant than rye or oat. Barley is not as tolerant of wet soil conditions as cereal rye or oat; it will not grow well in heavy, poorly drained, or low-permeability soils,



Barley (*Hordeum vulgare* L.)
80-100 lb/seeded acre

especially after periods of heavy rainfall. Many barley cultivars are available. 'UC 476' is a popular tall-growing cultivar that has good disease resistance but poor self-regeneration; 'UC 603' is a short-statured cultivar that is frequently used. Care should be given to cultivar selection, avoiding those that are not tolerant or resistant to yellow dwarf virus and rust.



Triticale
(*X Triticosecale*)
100-120 lb/seeded acre

Triticale is a cross between wheat and cereal rye, and is similar in productivity to both these species. Many types are available, with widely differing growth habits and maturity dates. It is used in a small number of vineyards compared to other cereals.

The written text descriptions have been taken from *Cover Cropping in Vineyards, A Growers Handbook*, Ingels et al., UC DANR Publication 3338.