

COVER CROPS for SANTA CRUZ COUNTY Vineyards, Orchards & Fallow Land

Non-Native ANNUAL GRASSES:

Zorro Fescue (Vulpia myuros) Low growing (small foxtail)
Blando Brome (soft chess), (Bromus hordeaceus)

Barley (Hordeum vulgare/cultivars:UC 476, UC 603)
Oats (Avena sativa/cultivars: Swan, Sierra, Ogle)

PERENNIAL GRASSES[†] (drought tolerant, natives)^{***}:

Red Fescue (Festuca rubra/common names: Molate(native), Chewings & Creeping Red(non-native)
Idaho Fescue (Festuca idahoensis)
Perennial Ryegrass (Lolium): Essence (dwarf), Tetraploid, Linn (non-native)
California Brome (Bromus carinatus)
California Barley (Hordeum californicum)
Meadow Barley (Hordeum brachyantherum)
Blue wildrye (Elymus glaucus/ cultivars: anderson, berkeley)

ANNUAL and PERENNIAL LEGUMES^{**} (non-native):

Rose Clover (Trifolium hirtum/cultivars: Hykon, Kondinin, Overton)
Crimson Clover (Trifolium incarnatum/cultivars: Dixie, Flame)
Subterranean Clover (Trifolium subterraneum/cultivars: Mt Barker,Clare,Koala, Trikkala)
Bur Medic (Medicago polymorpha/cultivars: Santiago, Serena)
Field Pea (Pisum sativum/cultivars: Magnus, Miranda, Austrian Winter)
Bell Bean or Fava Bean (Vicia faba)
Woollypod Vetch (Vicia villosa ssp.dasycarpa)
Sweet Clover (Yellow-Melilotus officinalis, White-Melilotus alba)
Berseem Clover (peak growth during CA rainy season)
Strawberry Clover (Trifolium fragiferum): Salina, O'Connors, Palestine (all perennial^{***})
White Clover (Trifolium repens): New Zealand, Ladino, Dutch (all perennial^{***})

WILDFLOWERS^{††}: (Native, and can be added to any cover crop mixes)

California Poppy (Eschscholtzia californica)
Lupine (Lupinus sp.)
Tidy Tips(Layia platyglossa)
Tansy phacelia (Phacelia tanacetifolia)
Farewell to Spring (Clarkia sp.)

| ANNUAL GRASS/LEGUME MIXES: | % | SEEDING RATE/ ACRE* |
|--|----------|----------------------------|
| EARLY FALL PLANTING (October 1-November 10) | | |
| Blando Brome | 50% | 10 lbs |
| Rose or Crimson Clover | 50% | 10 lbs |
| DROUGHTHY, LOW FERTILITY SITES | | |
| Zorro Fescue | 14% | 5 lbs |
| Rose or Crimson Clover | 43% | 15 lbs |
| Bur Medic | 43% | 15 lbs |
| RE-SEEDING ANNUAL EROSION CONTROL MIX (Seeded before Nov.10) | | |
| Blando Brome | 50% | 10 lbs |
| Zorro Fescue | 17% | 5 lbs |
| Rose or Crimson Clover | 33% | 5 lbs |
| LATE SEASON EROSION CONTROL PLANTING (Seeded after Nov.10) | | |
| Annual Ryegrass | 45.5 % | 25 lbs |
| Barley | 45.5% | 50 lbs |
| Annual Legume(s) (see above) | 9.0% | 10 lbs |
| SOIL BUILDING MIX (Low fertility soils) | | |
| Bell or Fava Beans | 20% | 20 lbs |
| Common Vetch | 20% | 20 lbs |
| Field Pea | 20% | 20 lbs |
| Barley, Oats or Sterile Wheat | 40% | 40 lbs |
| NITROGEN MIX | | |
| Berseem Clover | 22.2% | 10 lbs |
| Subterranean Clover | 22.2% | 10 lbs |
| Lana Woollypod Vetch | 62.5% | 25 lbs |
| Bur Medic | 22.2% | 10 lbs |
| PERENNIAL MIX*** | | |
| Creeping Red or Molate Fescue (low growing) | 37.5% | 15 lbs |
| Dwarf Perennial Ryegrass (low growing) | 37.5% | 15 lbs |
| Strawberry or White Clover (low growing) | 25% | 10 lbs |
| <i>Note: Consider Barley or Sterile Wheat as a nurse crop</i> | | 40 lbs |
| “BIG 3” NATIVE, NO-TILL EROSION CONTROL MIX (Perennial***) | | |
| California Brome | 33.3% | 10 lbs |
| Meadow (wet soil) or California Barley | 33.3% | 10 lbs |
| Blue Wildrye | 33.3% | 10 lbs |
| WILDFLOWERS (Add one or more to the above mixes for aesthetics and color) | | |
| California Poppy | | |
| Lupine | | |
| Tidy Tips | | |
| Tansy phacelia or Farewell to Spring | | |

ACCESS ROADS AND CRITICAL AREA EROSION CONTROL MIX

Reseeding Annual Mix

| | |
|--|--------|
| Blando Brome | 15 lbs |
| Annual Ryegrass | 25 lbs |
| Rose or Crimson Clover | 10 lbs |
| Or Santa Cruz Co. Erosion Control Mix [^] | 20 lbs |

Note: [^]Do not plant Blando Brome or the Santa Cruz Co. erosion control mix in a wildland interface.

Perennial Mix^{***}

| | |
|--|----------|
| Idaho Fescue | 15 lbs |
| Creeping Red or Molate Fescue | 15 lbs |
| Reseeding Annual or Perennial Legume (see choices above) | variable |

USE THE FOLLOWING GRASSES/LEGUMES AS VINEYARD COVER CROPS WITH CAUTION (See limiting factors noted below)

- Annual Ryegrass (Fertility depletion, moisture competition)
- Perennial Ryegrass – Tall varieties (Moisture depletion)
- Tall Fescue (perennial) (Moisture competition and need for irrigation)
- Strawberry Clover (invasive perennial, attracts gophers)
- Late maturing Oat (California Red and Cayuse oats-Moisture competition)

* Seeding rates will vary based upon local conditions and date of planting-consult with seed supplier for appropriate rates

**Legumes require inoculants to support Nitrogen-fixing bacteria

****To insure success of perennial grasses & legumes consider irrigation during establishment period.*

† It is important to let native grasses flower late in the spring, in order for them to accumulate carbohydrates in their root systems which improves their persistence and competitiveness with weeds.

†† For wildflowers, lightly till soil, moisten ground, mix seed with Monterey sand to ensure even dispersal; close mow in late winter/early spring to reduce competition from weeds; light Nitrogen fertilizer in early-mid spring

Note: Barley grass can be seeded late in the fall or early winter when planting success is poor and/or where bare soil exists.

Barley is a cold season, non-reseeding annual grass that germinates quickly and provides temporary erosion control.

Note: Annual re-seeding or perennial non-native grasses should not be seeded in wild land areas or in the vineyard/wildland interface.

RESOURCES:

Cover Cropping in Vineyards: A Grower's Handbook. 1998. University of California, Div. of Agriculture and Natural Resources. Publication # 3338. 162p. 1-800-994-8849

www.Calscape.org; CA Native Plant Society site to view photos and descriptions of CA native plants.

Cover cropping systems for organically farmed vineyards. By Glenn McGourty. 2004

<http://www.practicalwinery.com/septoct04/septoct04p22.htm>

Field Office Technical Guide/Vegetation. USDA Natural Resources Conservation Service

<http://www.practicalwinery.com/septoct04/septoct04p22.htm> -Cover cropping systems for organic farms

IMPORTANT NOTES:

Contact the USDA Natural Resources Conservation Service before purchasing and/or planting any of the above cover crops to ensure that you have selected the best mix for your orchard or vineyard. If grass and/or grass/legume mixes other than the late season mix is planted after November 1, then add additional seed to seeding rate and include barley, oats or Annual ryegrass at a rate of 25 lbs per acre as a nurse crop.