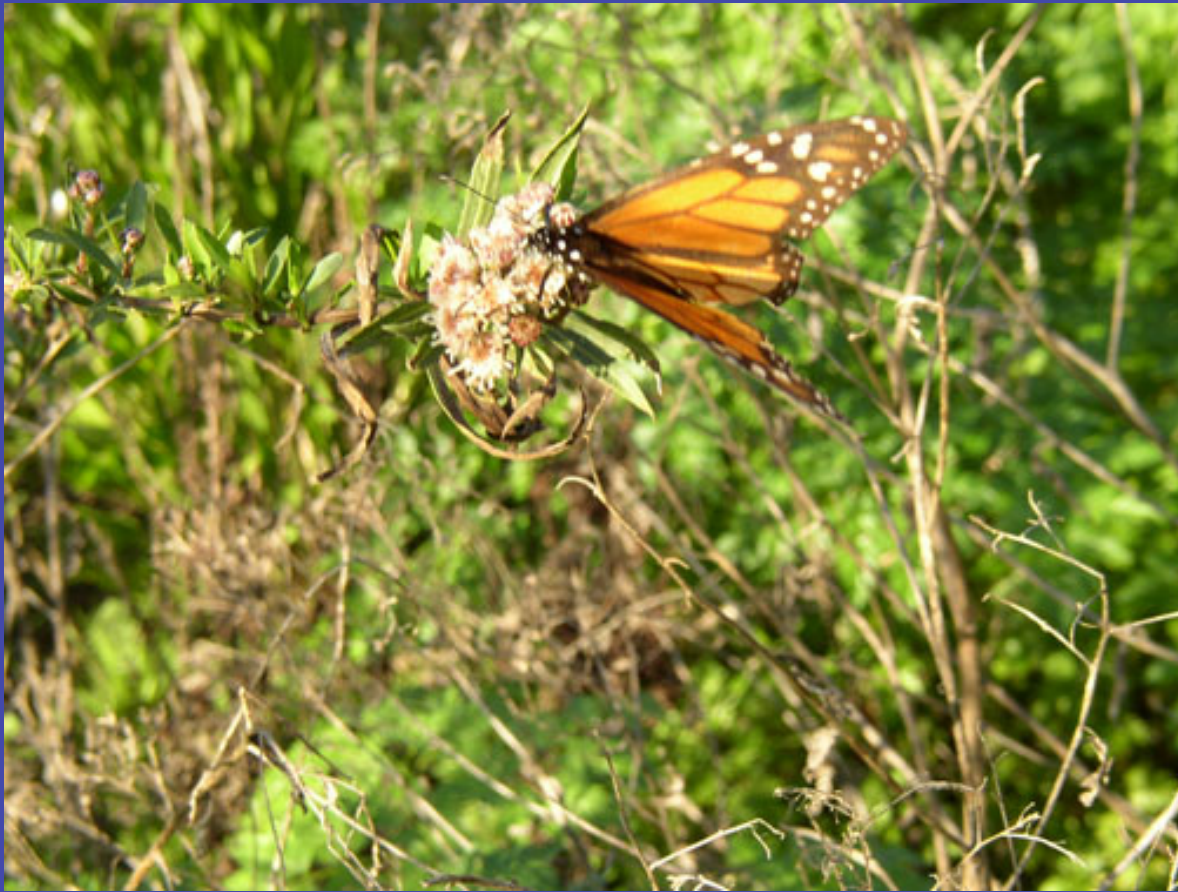


Using Native Plants on Farms



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Hedgerows, Grassed Waterways, Filter Strips, Riparian Plantings, Windbreaks

Beneficial insect and pollinator habitat

Wildlife habitat

Soil erosion control

Weed control

Non-point source water pollution reduction

Air quality and dust control

Barriers

Riparian stabilization

Windbreak and climate modification

Aesthetic value

Economic returns

Increase in local and regional biodiversity

Native Plant Hedgerow



Perennial Grasses In Ditch for Erosion and Weed Control



Grass Filter Strip between Field and Hedge



Windbreak



Riparian Planting



Insects Associated with Native Hedgerows

Plant species sampled:

California lilac	Ceanothus
Buckwheat	Eriogonum fasciculatum
Coffeeberry	Rhamnus californica
Coyote Brush	Baccharis pilularis
Toyon	Heteromeles arbutifolia
Elderberry	Sambucus mexicana



Beneficial Insects

Monitored:

Minute pirate bug
Assassin bug
Soldier beetle
Green lacewing
Colops
Lady beetle
Damsel
Hymenoptera
Hoverflies
Tachinid flies

Pest Insects Controlled

Aphids
Mealy Bugs
Leaf Hoppers
Scale
Mites



Whitefly
Thrips
Squash Bug
Stink Bug
Lygus Bug

Beneficial Insects



Beneficial Insects



Wasps

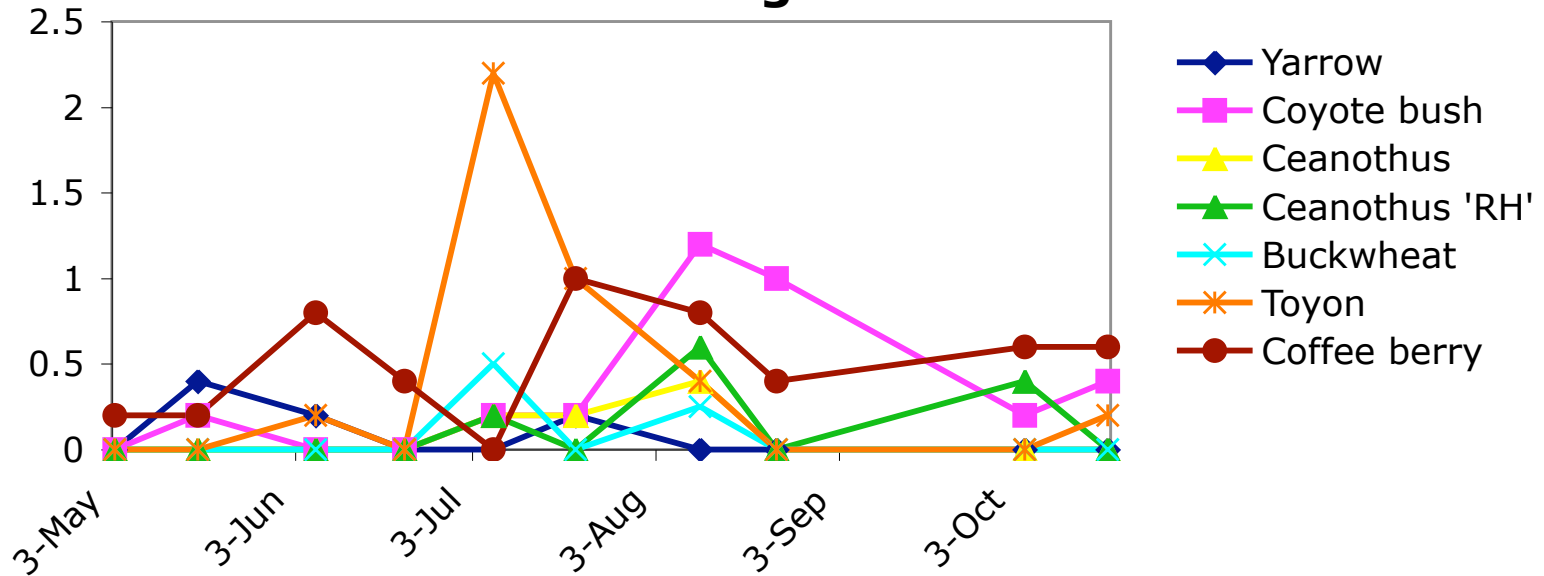


Abundance of a Predator



Mean abundance/1 min vacuum sample

Green Lacewings

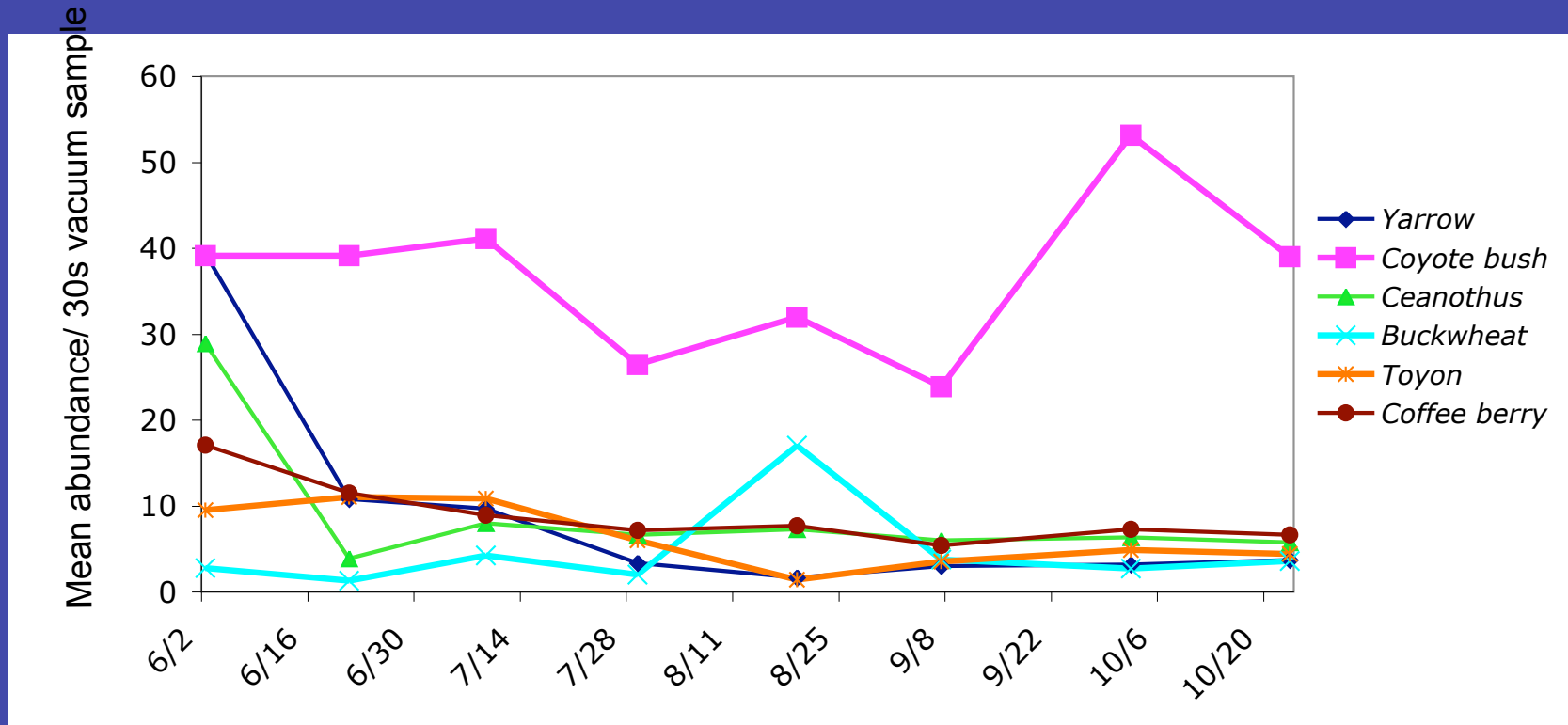


San Juan Bautista site, 2006

Abundance of Wasp Parasitoids



Photos credit: UC IPM website



Means of 5 sites, 2005

Data from Tara Pisani Gareau <tlp19@psu.edu>

Bees Increase Yields



Native Bees Pollinate Squash, Cucumbers, Sunflowers



Bees on Black Sage



Birds Eat Pests

Birds Eat Rodents, and the Following Insects:

Caterpillars

Ants

Grubs

Moths

Grasshoppers

Leafhoppers

Aphids

Snails

Scale insects

Sow bugs

Codling Moth

Insect eggs



Birds eat bugs



Issues, Problems with Native Plantings

- Pests (insects, rodents, birds) attracted to plantings
- Food Safety concerns
- Movement of insects into fields
- Genetic Pollution-not using plants from specific area
- Hosting Diseases: Pierce's Disease, Sudden Oak Death (SOD), Eutypa
- High costs of maintenance

Factors to be considered before deciding on whether animals are a food safety concern:

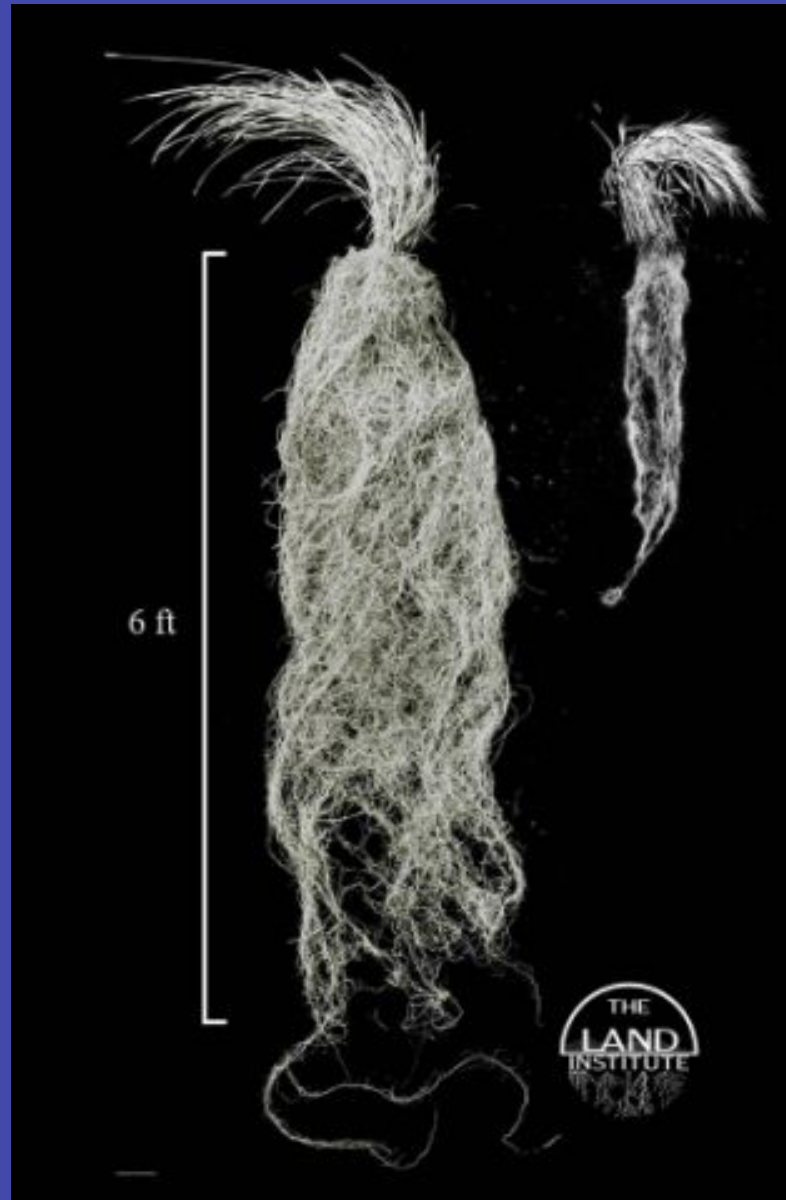
- number of animals
 - type of animals
 - type of crop
 - harvest procedure
- neighboring influences
 - pathogen of concern
 - additional processing

Monitor the crop, not the habitat planting. Take action if crop damage or animal feces are observed.

From Eroding Ditch to Grassed Waterway



Perennial vs. Annual Roots



Planning a hedgerow



Yarrow

Achillea millefolium



Manzanita

Arctostaphylos spp.



California Sage

Artemisia californica



Quailbush/Saltbush

Atriplex lentiformis



Coyote Brush

Baccharis pilularis





California Lilac

Ceanothus spp.



California Fuschia

Epilobium canum



California Buckwheat

Eriogonum fasciculatum



Flannelbush

Fremontodendron californicum



Toyon/Christmas Berry

Heteromeles arbutifolia



Deergrass

Muhlenbergia rigens



Coast Live Oak

Quercus agrifolia





Coffeeberry

Rhamnus Californica

Wild Rose

Rosa Californica



White Sage

Salvia apiana



Black Sage

Salvia mellifera



Elderberry

Sambucus mexicana



Redwood

Sequoia sempervirens



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