

# Stay Calm and "Native" On!





New plant and animal **species** have been introduced into California since the mid-1700s. Not all of these species are desirable. Agriculture can be affected by the undesirable species. These undesirable, or invasive species, can spread rapidly, reproduce quickly, and cause problems with farmers' crops and livestock, not to mention the environment. So, stay calm and read on to learn more:

- **Native:** A plant or animal that is part of the balance of nature that has lived in or developed over hundreds of years in a particular region or **ecosystem**.
- **Non-Native:** A plant or animal introduced with human help (intentionally or accidentally) to a new place or new **habitat** where it was not previously found.
- **Invasive:** A plant or animal that is non-native and able to establish in many areas, grow or reproduce quickly, and spread to the point of disrupting plant communities and ecosystems. Important! Not all non-native species are invasive.

**Activity** Define Native, Non-Native, and Invasive in your own words - share with a friend!

## Transportation Trivia - Insects!

Due to an increase in trade and travel over the past century, insect populations have increased rapidly which directly affects agriculture. Invasive insects are transported many ways including "hitchhiking" in produce, firewood, luggage, etc. This has had a significant effect on agriculture. Review the invasive insects and complete the chart. Go to [learnaboutag.org/resources/fact\\_invasion.cfm](http://learnaboutag.org/resources/fact_invasion.cfm) for more information.









Insect	Origin	Effect on Ag	Miles
 Oriental Fruit Fly	Taiwan	Attacks 200 different crops.	6,700
 European Grapevine Moth	Italy		
 Asian Citrus Psyllid		Destroys citrus crops.	7,700
 Mediterranean Fruit Fly		Lives in various climates and attacks more than 250 crops.	

ANSWERS: European grapevine moth: Reproduces rapidly and has no natural predators, 6,200 miles; ACP: Southern Asia, Medfly: Africa, 6,000 - 10,000 miles.

## Native or Non-Native Activity

Research online to learn more about each species. Using information from this page, complete the columns for Native or Non-Native and Invasive or Not Invasive.



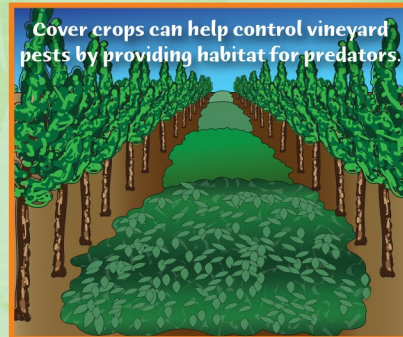
Species	Native or Non-Native	Fact and Ag Connection	Invasive or Not Invasive
 CA Poppy	Native	1. Named the state flower of California in 1903. 2. Can be part of <b>habitat restoration</b> .	Not Invasive
 Yellow Starthistle	Non-Native	1. Poisonous to horses. 2. Spreads easily on rangeland reducing <b>forage</b> and habitat.	INVASIVE
 Black Bear	Native	1. They are <b>opportunistic</b> eaters: they eat grasses, roots, berries, and insects. 2. Will raid beehives.	_____
 Mallard Duck	Native	1. Migratory birds, they travel the Pacific Flyway. 2. Rice fields provide feed and resting areas for them.	_____
 Monarch Butterfly	_____	1. Migrate south every fall, about 2,000 miles, to a warmer climate. 2. Living mostly near meadows and grasslands, monarchs pollinate many types of wildflowers.	Not Invasive
 Lupin	_____	1. Grows as a wildflower in California. 2. Can be toxic for cattle grazing on rangeland.	_____
 Valley Oak	_____	1. Provide nesting habitat for red-tailed hawks. 2. Once covered the valley, old farming practices cut many down.	Not Invasive
 California Tree Frog	_____	1. Lives in Coastal Southern California. 2. Eats insects, spiders, centipedes, and other invertebrates.	Not Invasive

ANSWERS: Black Bear: Native; Not Invasive; Mallard Duck: Native; Not Invasive; Monarch Butterfly: Native; Lupin: Native; Valley Oak: Native; California Tree Frog: Native

## Agriculture Uses Native Plants

Native plants are used in farming in many ways. They are used as **cover crops** to help suppress weeds, build productive soil, and help control pests and diseases. Native plants are also grown near fields to provide nectar, pollen, and seeds that serve as food for native butterflies, insects, birds and other animals.

**Did you Know?** In the 1970s, the development of Integrated Pest Management (IPM) research began. IPM naturally controls pests through crop rotation, utilizing predator species (such as ladybugs), and deploying Genetically Engineered (GE) crops which are protected from certain pests and diseases. Pesticides are used only if natural control methods are not successful. For more information, check out [www2.ipm.ucanr.edu/WhatIsIPM](http://www2.ipm.ucanr.edu/WhatIsIPM).



**Citizen Science**  
Go to [www.iNaturalist.org](http://www.iNaturalist.org) and help scientists! Observe and document your native, non-native, and invasive species findings.



### Service Learning

Create a Public Service Announcement (PSA): With a group, brainstorm a message to teach about Invasive species. Write a script, act it out, and record your PSA. Keep it to 30 seconds and show your class!

CA Standards: ELA CC: RI.3-5.1, 3, 4, 5, 7; W.3-5.2, 5, 6, 7, 8; SL.3-8.1, 4, 5; RST.6-8.1, 3, 4, 7; WHST.6-8.2, 5, 6, 7, 8; Math CC: 3.MD.3; 5.NF.6; 6.RP.3; 7.RP.3; NGSS: 3-LS3-2, 3-LS4-3, 4; 5-ESS3-1; MS-LS1-5, MS-LS2-2, 5  
Sources: nracs.usda.gov, learnaboutag.org, Cal-ipc.org/ip/inventory, Nrm.dfg.ca.gov, Parks.ca.gov, Iscc.ca.gov