Case Study: Climate-Friendly Farming

photo: Anna Buss

Frog Hollow Farm

Al Courschesne—or as he is known by most, Farmer Al—started farming in 1976 on 13 acres of land in Brentwood, California. He started the farm out of a love of food and a desire to provide his community with a fundamental human need. The operation has grown into the 133-acre Frog Hollow Farm, producer of hundreds of varieties of fruits including cherries, apricots, peaches, nectarines, apriums, plums, pluots, Asian and European pears, olives, persimmons and apples. The farm is known not only for its produce and popular value-added products created by chef and co-owner Becky Courschesne, but also for its role as a pioneer within the sustainable agriculture community over the past thirty years.

Frog Hollow's commitment to sustainable farm practices is a natural expression of Al's dedication to the health of his family, community and business. "All I can do," he says, "is a better job of what I do here—grow food."

Growing food is going to become more challenging for farmers across California in the face of climate change. Farmer Al has already experienced a decline in the number of annual "chill hours" (when temperatures fall below 45°F) that some tree varieties require for normal blossom and fruit development. He has seen a decrease in yields from his cherry varieties dependent on winter chill. Unusually warm, wet weather in the winters of 2010 and 2011 also caused catastrophic loss of apricots at Frog Hollow. Al anticipates having to phase out the tree varieties that require the high chill hours.

Al's strategy for protecting his business against climate impacts is to ensure that his trees "will be able to better protect themselves against catastrophic weather events just because they are healthier."

Key to this strategy is the annual application of four thousand tons of compost that he produces on site. Frog Hollow's compost is made from tree prunings, shed waste (including cardboard boxes), horse manure from neighbors, and food waste from their commercial kitchen that produces jams, dried fruits and incredible cakes and pastries. Al's compost piles that stretch down in long rows adjacent to his orchards and weigh about 150 tons each take two to three months to decompose.

Compost-enriched soil, with its high levels of humus, microbes and fungi, provides tree roots with more accessible nutrients and increases the water-carrying capacity of the soil. There is also good evidence that soils high in organic matter sequester more carbon, removing carbon dioxide from the atmosphere where it traps heat. For trees needing an extra productivity boost, Al applies his "primo compost" produced by earthworms that produce the nutrient-rich material known as vermicompost.

Compost production is just one of the sustainable farming methods used at Frog Hollow, which has been completely organic since 1989. Another feature is its diversity of both tree varieties and native habitat. The farm's fruit tree varieties number more than 100, effectively providing insurance against variability in weather, pests and diseases and other unpredictable effects that climate change will exacerbate.

Frog Hollow also emphasizes on-farm biodiversity to help regulate farmscape microclimates, enhance pollinator habitat and improve water quality—all essential for resilience to climate changes. Al has partnered with UC Berkeley project to attract native bees that serve as pollinators for his trees. Rather than killing off unwanted insects with pesticides, he releases beneficial insect predators to control pests.

Frog Hollow is an admirable example of a farm using its resources practically, creatively and with an eye towards the ever-changing ecosystem upon which it depends.

"Climate change will continue to affect agriculture, and agriculture will just have to adapt."
— Farmer Al