

Wine Grape Soil Health

Long Term Agroecological Research and Extension Site

Washington is the #2 wine grape producer

WSU Prosser Irrigated Agriculture Research and Extension Center



The Washington State Soil Health Initiative (WaSHI) is an ambitious plan that funds research, extension, and demonstration of soil health best management practices through a network of long-term agroecological research and extension (LTARE) sites across Washington state's diverse agricultural systems.

4 Important Soil Health Issues



Wind erosion



Salinity/sodicity

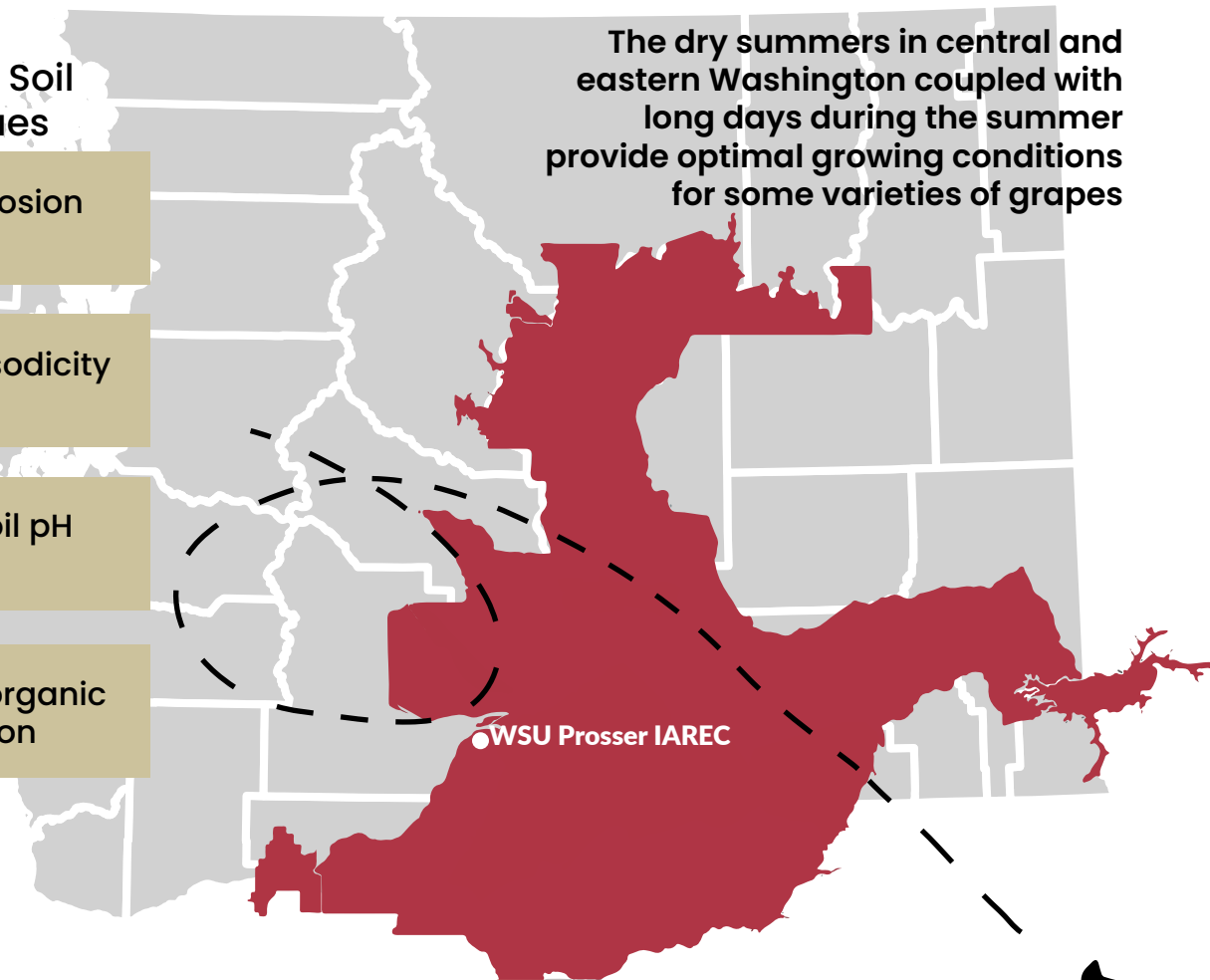


High soil pH



Low soil organic carbon

The dry summers in central and eastern Washington coupled with long days during the summer provide optimal growing conditions for some varieties of grapes



WSU Prosser IAREC

Evaluate and identify the influence of vineyard management practices on soil health and its impact on grape and wine quality.



Washington State Department of Agriculture



WASHINGTON STATE UNIVERSITY

Investigating cover cropping methods and reduced herbicide applications

Business as Usual



Undervine cultivation

Typical synthetic nutrients and herbicides applied

Managed Local Vegetation



Mowing

Row to row local alleyway vegetation

Typical synthetic nutrients applied

Cultivated Cover



Mowing

Cultivated cover crop undervine

Typical synthetic nutrients applied

Organic Matter Additions



Row to row local alleyway vegetation

Mowing

Compost application

No synthetic nutrients applied

Aspirational Management



Cultivated cover crop under vine and in alleyway

Mowing

Compost application

No synthetic nutrients applied

Informed by best practices for the region

Varietals:

Cabernet Sauvignon and Chardonnay *Vitis vinifera* grafted to '1103P' rootstock

Water management:

Drip irrigation from surface water

What is being measured at this LTARE?

Soil Health

(Example metrics)

Available water holding capacity

Soil pH

Microbial communities

Physical

Chemical

Biological

Soilborne pests and disease



Wind Erosion



Vine Health

Yield

Fruit Quality



Wine quality



Carbon Stocks

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Learn more about soil health across Washington state in our roadmap



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2021