

Making Your Land More Resilient to Drought

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Now that the 2021 crop year has ended, it's time to start planning for 2022 and beyond. Many farmers and ranchers west of the Mississippi River have had a very difficult year in 2021 due to drought. Those in other areas of the country were spared from the worst of the drought this time but may not be as lucky in future years. So, as you're planning for 2022 production, you may want to consider some conservation practices that can help make your land and livestock more resilient to drought and help your bottom line.

USDA's Natural Resources Conservation Service can help you conserve water and build resilience to drought, through conservation practices that improve irrigation efficiency, boost soil health, and manage grazing lands.

Irrigation Efficiency



The Mota Ranch almond orchard using cover crop and micro irrigation in Livingston, CA on Apr. 16, 2015. USDA photo by Lance Cheung.

USDA helps you improve your irrigation efficiency to ensure each drop of water is used wisely. Saving water on your farm can help during drought and can offset rising water costs; reduce expenditures for energy, chemicals, and labor; and enhance revenues through higher crop yields and improved crop

quality. Funded conservation practices include conversion to more efficient irrigation systems, such as micro-irrigation or subsurface drip irrigation, installation of irrigation pipeline, irrigation water management, structures for water control, and flow meters. Tools like drip irrigation, which provides water precisely where and when it's needed, can achieve greater precision with flow meters and soil moisture sensors.

Soil Health

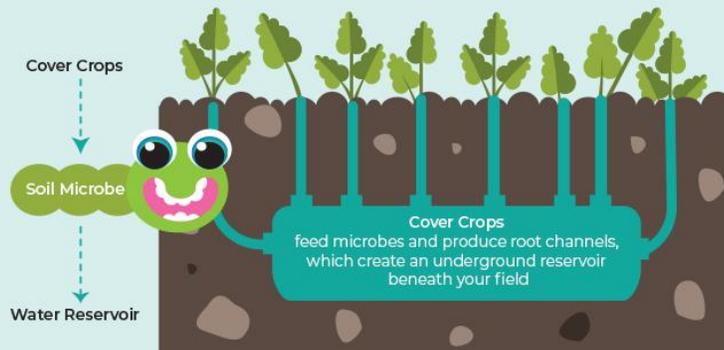


Patrick Bittner (left), a farmer in Evansville Indiana, checks the soil in his field along with Keith Williams, Indiana NRCS planning team leader, prior to planting corn on May 13, 2021. Bittner is a no-till farmer and directly plants his corn seed into his cover crops. Indiana NRCS photos by Brandon O'Connor.

In addition, soil health conservation practices, such as reduced- or no-till, cover crops, mulching and residue management can help to make your soil, and the plants you grow or animals you raise, healthier. Healthier soil can absorb and retain more water for longer periods of time, making your farm or ranch more resilient to drought. Using soil health practices, you can conserve water by increasing your soil's water-holding capacity and use conservation tillage to keep the ground covered, reducing water loss through transpiration and evaporation.

IMPROVE DROUGHT RESILIENCY

**SOIL HEALTH
BUILDS DROUGHT
RESILIENCY**



And soil health practices increase organic matter, and each pound of organic matter can hold up to 20 pounds of water. Every 1% increase in organic matter results in as much as 25,000 gallons of soil water per acre. Each 1% increase in organic matter can also provide up to 30 pounds of more available nitrogen per acre. That means less money and time spent on inputs like water and fertilizer, which make your operation more profitable.

Rotational/Prescribed Grazing, Water Sources for Livestock



NRCS assisted Kenny and Annette Sites with a conservation plan that includes prescribed grazing (528); and the forage and biomass planting (524) of the pastures, in Sheridan, AR, on June 27, 2019. USDA photo by Lance Cheung.

Drought also impacts grazing lands, and NRCS works with you to increase the resilience of your livestock operation. Ranchers can adapt to dry conditions in two main ways: increasing the availability and suitability of forage and ensuring that cattle have an adequate and reliable source of water. For forage, rotational or prescribed grazing (rotating cattle among pastures) can relieve pressure on stressed vegetation and ensure a more consistent supply of forage for animals. NRCS conservationists can also work with you to plant more drought-tolerant forage species, plants best suited to local soils and conditions. For reliable sources of water, NRCS can help you with installing watering facilities, water wells, or water pipeline for livestock. Having available forage and water for livestock can make a big difference in difficult drought conditions.

USDA and NRCS are here for you, helping you recover from drought and prepare for the next one. For more information on drought recovery assistance at <https://www.farmers.gov/protection-recovery/drought#recovery>.

For more information on conservation practices to make your operation more resilient to drought in future years, go to www.nrcs.usda.gov.