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# NEWSLETTER

## Composting 101

*By Kara Harders, Colorado State University Extension, Small Acreage Management*

Composting is a natural process we can utilize to help break down and recycle materials that would have otherwise been considered trash or waste. Materials including food scraps, garden byproducts, and other organic “trash” can become the magical soil amendment we know as compost!

Because composting is a natural process, it can be induced by following some basic rules and creating ideal conditions for the process to happen. While people may think they are the ones composting it is really bacteria, fungi, molds, and worms doing all the heavy lifting. When we compost it is important to keep these organisms happy and healthy to do they can do what they do best, turn trash into soil gold! Luckily, they only need a few things to do what they do best.

### **Food! (Nitrogen and carbon rich)**

These composting critters work best when given about a 30:1 Carbon to Nitrogen ratio. The carbon source could be dead plants, bedding, grass clippings, leaves or even shredded office paper. The nitrogen source could be fresh grass cuttings, food scraps or animal manure.

### **Moisture**

Like all living things, water is essential to the life in your compost heap. Most of the organisms breaking down materials in your compost pile live in the film of moisture around the “ingredients” in the pile. Too little moisture and they will die or become dormant. Too much moisture and they will drown (and the pile will smell BAD). Aim for a pile that feels damp, like a wrung-out sponge. If the pile gets too dry, spray it lightly with a garden hose and try to keep it covered with a tarp in a shady area to retain moisture and to keep out heavy rains.

Compost needs to be grouped to maintain moisture and heat; therefore, the structure of your compost needs to be in a heap of sorts. This may seem obvious, but there are a few critical details.

Consider where you are putting your pile. Avoid spots in direct sunlight for much of the day as this can dry out your pile. You should also avoid areas where water collects or drains. Compost piles are rich in nutrients that can be harmful to water ways and contribute to nutrient pollution. Think about keeping water from running through the pile when it rains or snow melts.

An ideal size is about one cubic yard. A pile this size can be built over time (cool composting) or all at once (hot composting). A benefit to doing hot composting is the sterilization of some weed seeds. Large heaps made all at once with the correct balance of materials and moisture can break down materials so fast the internal temperatures of these piles can reach 160°F! Smaller piles won't hold heat as well and can dry out quickly if done outside of a container, but they will be easier to turn. Speaking of turning...

### **Aeration**

All those composting organisms you are after also need to breathe. In addition to design, to get them oxygen you will need to "turn" the pile. Ideally, your compost pile will sit on some coarse materials to help allow air travel in from the base. When setting up the pile make an effort to use materials which create air pockets, such as stems, stalks, wood chips and other rigid materials. These will help to draw air up and out of the pile.

Use a composting thermometer to gauge the inside temperature. When it reaches 140°F, give it a turn and water as needed. Turning the compost will also help get air to the organisms doing the dirty work. You can turn the compost as often as the temperature reaches 140°F. It is recommended to let the pile go through three heating cycles to help sterilize weed seeds. For more information check out <https://sam.extension.colostate.edu/topics/composting/>.

## *We Need Volunteers*



We need your help! Our volunteer opportunities connect us to the environment while getting real conservation work done.

We need help caring for restoration plantings and the Bluebird Trail at our stream restoration partnership at CALF's Lowell Ranch in Castle Rock.

Contact Heather for more information.



**DOUGLAS**  
—CONSERVES—

# PLANNING for the 2021 GROWING and GRAZING SEASON

*Co-authored by Retta Brugger, Colorado State University (CSU) Range Extension Specialist and Julie Elliott, Colorado Natural Resources Conservation Service (NRCS) Rangeland Management Specialist*

How can you make well-informed decisions for summer grazing? We all know that 2020 was a drought year in Colorado. Soils are dry and will need to be refilled. When do we need the moisture for summer grass? How can we plan for the 2021 grazing season?

Cooperative Extension research across the High Plains found that cumulative precipitation up to 30 days before peak grass growth has the most impact. For Eastern Colorado, peak grass growth is in June and July. That means the moisture received to mid-June sets the stage for summer grass growth. This is also true for SW Nebraska and Western Kansas.

But it would be helpful to anticipate what might in store before May and June. Results from 70+ years of research from the Agricultural Research Service (ARS) range in Nunn, Colorado, may help. It turns out that long-term climate trends such as La Niña/ El Niño and the Pacific Decadal Oscillation (PDO)\*\*, are important. In fact, these ocean temperature cycles explain 70% of yearling weight gain differences!

Researchers used this data to create a decision tree to help them make decisions before the growing season. They watch the El Niño/ La Niña and PDO cycles and moisture conditions through the winter. Then in early April, they use the decision tree as part of their stocking discussion.

Let's look at the decision tree for 2021. The Pacific Decadal Oscillation is still in the warm phase. Forecasters report that La Niña is strong. (La Niña is correlated with below-average winter moisture for Colorado.) The decision tree suggests that the stocking rate should be decreased relative to moderate. Ocean activity indicates that drought conditions are likely to persist.

Another tool ranchers can use is Grass-Cast. Grass-Cast, or Grassland Productivity Forecast, has over 30 years of historical data about weather and vegetation growth. It compares that data with current year precipitation to create three production forecast maps. Each map indicates the expected grass growth based on above-normal, near-normal, or below-normal summer rain.

The first Grass-Cast maps for 2021 will be released in April. These maps can identify areas where there are early signs of opportunity or challenges. The bi-weekly maps become more accurate as more rainfall is recorded. By May 30, the average accuracy of the maps improves to 70%.

# Board Supervisor Spotlight



The Douglas County Conservation District Board of Supervisors is comprised of volunteers passionate about our mission to help people help the land.

Kevin Shanks, Vice President of the Board of Supervisors has served since 2014. Kevin is an accomplished Landscape Architect with 20+ years of experience in Colorado and is the Vice President and Principle of THK Associates, Inc. We are lucky to have him!



The decision tree, understanding timing of moisture and grass growth, and Grass-Cast are all useful tools to help ranchers make timely grazing decisions. Responding early to drought can help protect financial and rangeland resources into the future.

Learn more about the drought decision tool here: <https://bit.ly/3it5AsL> or by typing 'early warning stocking decisions' into an internet browser.

Learn more about Grass-Cast at <https://grasscast.unl.edu/>.

\*\* La Niña/ El Niño is also known as El Niño-Southern Oscillation or ENSO. It results from changing sea surface temperature of the Pacific Ocean off South America near the Equator. El Niño (the warm phase) tends to give wet conditions on the plains. La Niña (the cool phase) is usually dry. The neutral phase does not drive precipitation on the Plains. Phases can last less several months up to 3 or more years.

Pacific Decadal Oscillation refers to changing sea-surface temperatures in the more northern Latitudes of the Pacific Ocean. The warm phase consists of a boomerang of warmer-than-average seas along the coast of western North America with a pocket of colder-than-average waters in the central North Pacific. The cool phase is the opposite. Phases switch on a 10-30-year cycle.

## College Scholarships

Are you or someone you know headed to college? Your Conservation District awards one scholarship every year and has awarded over \$20,000 since the program began in 2002. Our scholarship is worth \$4,000 over two years and four consecutive semesters at an accredited institution. Many of our scholarship recipients have gone on to have rewarding careers in the environmental sciences. Check out [our website](#) for details.



## Grade School Curriculum

The Diggin My Doug Program teaches kids about their deeper connection with our natural environment and is key to our mission. This interactive and virtual class is available FREE to K through 4th grade. We have two versions to offer at this time; *Butterflies!* by Kathy Okon and *The Soil Food Web* by Jessica Goldstrohm of **The Bees Waggle**. Please contact us to connect with our educators in the Douglas County Schools or to become an educator with the District.

## Conservation Events!

Please join us on Friday, June 18 at 5:30pm for the **Local Agriculture Workgroup Meeting**. We need to hear from the community about your conservation priorities and resource concerns on agricultural land! Each year the U.S.D.A. Natural Resources Conservation Service (NRCS) allocates funding to address priority resource concerns in our area. Your unique perspective drives which conservation priorities receive funds. Check out our [Events Page](#) for more details.

**Youth Conservation Camp** is Friday, July 9, 2021. Camp is at CALF's Historic Lowell Ranch in Castle Rock. This hands-on learning experience is for kids ages 7 - 14 years old. Kids get to play and learn outside with educators from our natural resource agencies, local scientists, and professionals from our Board of Supervisors. We strive to plant the seeds of stewardship to grow future conservationists. Bring a sack lunch, water bottle, sunscreen, sun hat, and closed-toe shoes for walking in the creek. Space is limited and registration is required. More details on our [Events Page](#)



The **Annual Meeting** is Saturday, September 18, 2021, at CALF's Lowell Ranch. Come meet our Board of Supervisors and hear a couple of interesting talks about local conservation efforts, and learn what's happening at CALF over delicious BBQ. We will announce and honor our Conservationists of the Year as well. Registration required. More details on our [Events Page](#).

# Conservationists of the Year Award

Each year we get to honor community members, school environmental groups, home owners associations, or a local park for their outstanding conservation efforts. For example, the Fox Creek Elementary School’s ECO Action Team won the Conservationist of the Year Award in 2019. Their outstanding conservation efforts are rooted in empowerment for kids to take actions that are meaningful to them right now.

The ECO Action Team planted a pollinator garden at their school and taught teachers and students about the importance of pollinators and the simple act of enjoying flowers. Through this project the ECO Action Team learned about the concept of native habitats for pollinators. They learned how to research, design a garden, present, formulate a budget, raise money, and in the end, plant and maintain a pollinator garden! This pollinator garden continues to be an educational platform, and a source of relaxation for teachers and staff, all while supporting wildlife. That’s a win in our book.



\*\*We are looking for community members or companies that are working on their own brand of outstanding conservation projects. Do you have a successful compost system? Have you mitigated a major weed problem? Do you support a community garden? Please contact us!\*\*



*The U.S.D.A. Natural Resources Conservation Service is an equal opportunity employer.*