

# NEWSLETTER



COLORADO STATE UNIVERSITY  
EXTENSION



U.S. Department of Agriculture  
Natural Resources Conservation Service



## Planting Trees in Spring

By Bonface Manono

### Introduction

Spring is associated with renewal, growth, and new beginnings. Planting a new tree is a fantastic way to add beauty to your landscape, reduce noise, improve air quality, control erosion, and provide habitat for wildlife. To ensure the success of a new tree requires specific steps.

### Tree Selection

Since most trees have a longer lifespan than people who plant them; the decision to plant a tree can influence a lifetime. It is also important to choose a tree that is adapted to your location. You should consider the tree's:

- ❖ Growth rate of the species selected.
- ❖ Mature size of the tree to be sure you have enough room.
- ❖ Hardiness – ability of a plant to survive in local temperature conditions.
- ❖ Heat tolerance and drought tolerance.
- ❖ Pest and disease resistance.
- ❖ Maintenance issues.
- ❖ Native vs. Non-native species.

### Site Considerations

- ❖ Available space above and below ground.
- ❖ Water availability.
- ❖ Soil conditions (texture, drainage, compaction, pH).
- ❖ Sunlight levels/exposure.
- ❖ Climate, weather, and other environmental factors.
- ❖ Presence of utility lines.

- ❖ Proximity to infrastructure (roads, sidewalks, houses, etc.)

It is critical to match the tree to the site before buying and planting the tree.

### How to identify a healthy tree at the nursery.

The tree should have:

- ❖ No sign of damaged/discolored bark, broken branches, or wilted leaves.
- ❖ Evenly spaced branches around the trunk.
- ❖ A strong and straight tapering trunk.
- ❖ Tree foliage and branches distributed on upper 2/3 of the tree.
- ❖ No sign of mechanical damage.
- ❖ No sign of weeds, pests, and diseases.
- ❖ When moving the tree, lift it by the container or rootball and not by the trunk.
- ❖ Container grown trees should not have circling roots.
- ❖ To avoid damage and stress to the tree before planting, keep the rootball moist.

### Nursery Stock

Trees can be purchased from nurseries either:

1. **Container grown** – trees grown in a container from seed to time of selling.
2. **Balled and burlapped (B&B)** – trees are field grown, then the root ball is dug together with soil from the ground, wrapped in burlap, and finally supported by a wire basket.
3. **Bare root** – the trees are field grown and then dug, but unlike the B&B, the soil is washed from the roots, leaving a bare root ball.

### Inside this issue

- Planting trees in spring.
- The power of emotional language
- Highly Pathogenic Avian Influenza A (H5N1) Virus
- Best ways to water your raised bed garden.
- Resources and events
- Disposing horse carcasses on private property

#### Contact us.

#### Front Range Region



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## The actual tree planting.

You should plant the tree soon after it is delivered to the site. To ensure its success, follow the following steps and aftercare techniques.

1. Prepare a deep enough hole (as deep as the root ball) so the tree can sit slightly above nursery level. Plant the tree on solid ground, not in hole dug and then filled with soil before placing the tree. This prevents planting the tree too deep once the soil settles. If you plant the tree too deep, the roots will lack oxygen leading to it being stunted, have low vigor and be susceptible to pests and diseases.
2. The hole width should be three times the width of the root ball. This is important because loosened soil outside the root ball will allow the tree to spread its roots faster.
3. Remove any burlap, ropes, strapping materials, bags, plastic containers, wire baskets, labels, plant tags, cords, and any type of labelling before putting the plant in the planting hole. If roots are cycled around the container, cut, and fluff them out to prevent them from continued growing in cycles inside the hole and becoming girdled roots later in the tree's life. Do not cut deeply into the root ball. If there is extra soil piled up on top of the root ball, remove it before planting.
4. Use the same soil removed from the hole to backfill it. Do not apply any other amendments or fertilizer to the backfill. At this stage, the tree has not developed the capacity for utilizing fertilizer and may cause complications such as root rot. Do not put crushed stones or gravel at the bottom of the hole.
5. To ensure good root to soil contact and to eliminate any remaining air pockets, gently firm the soil around the base of the roots while adding a little water. Rake the soil even when fully backfilled.
6. Do not cut any tree branches except those that are injured or diseased. Leaf buds release a hormone that encourages root growth. Therefore, leaf bud reduction discourages root formation. Removal of foliage also reduces the tree's ability to manufacture food, thereby slowing plant growth.
7. Put some mulch around the tree (2 to 4 inches deep) covering an area of 2 to 3 times the diameter of the root ball. Mulching:
  - Helps conserve moisture and regulate soil temperature.
  - Creates a weed and turf-free area.
  - Reduces plant competition for water and nutrients.
8. To prevent fungal decay, keep the root flare and tree trunk visible above the soil and off the mulch.
9. Successful establishment of a newly planted tree is dependent on it receiving the necessary care and maintenance after planting. This involves proper application of water until its root system develops enough to access water under normal moisture conditions. Watch for indicator signs that the tree needs water such as wilting. You should apply water at the base of the plant. If you have many trees and shrubs, you can use a drip irrigation system. You should, however, be careful not to overwater as it will reduce oxygen levels in the soil and damage roots.

10. Prolonged staking has negative effects since staking material often injures or girdles the tree. Therefore, newly planted trees should be staked sparingly and briefly and should be removed after one growing season.

## Special considerations

### 1. Bare Root Plants

Bare root plants whose soils have been washed or shaken off from their roots, lack a rooting media to supply water to the plants. Therefore, they should be stored in cold temperatures with high humidity levels but not be allowed to freeze. You can rehydrate these plants before planting by soaking them in a water bucket for a couple of hours. However, you should not leave them in water overnight.

### 2. Plants protected in a greenhouse.

Care should be taken when planting these plants outside. To avoid leaf damage, you may need to protect them from external environmental stresses such as heavy frost, wind, etc. Also keep them moist during the planting process.

### 3. Planting a new tree in the same spot after removing an old tree

An old tree's roots can create obstructions when preparing a hole for a new tree. Its removal alters local soil conditions and makes it difficult for a new tree to establish and grow. Therefore, a new tree should be planted at least three feet (ideally six to eight feet) away from the removed tree. Avoid planting a new tree in a decomposing stump of an old tree. This area provides unsuitable soil, limited rooting space and poor moisture.

*Bonface Manono is the CSU/NRCS Small Acreage Management Specialist for the Mountain Region.*



8:00 am to 5:00 pm

**May 29, 2024**  
**FRONT RANGE**  
**GRASSLAND FIRE**  
**WORKSHOP**



Located at the historic  
**Dickens Opera House**

302 Main St  
Longmont, CO 80501

## Information and registration here:

<https://gpfirescience.org/event/front-range-grassland-fire-workshop/>

**REGISTRATION ENDS MAY 15 • SPACE IS LIMITED • REGISTER SOON**

The Front Range can present unique fuel and weather conditions for wildfires.

Register for this workshop to increase your knowledge and understanding of grassland fire ecology, history, current conditions, prescribed fire and management for urban, rural, and intermix areas.

## THE POWER OF EMOTIONAL LANGUAGE

By Kirsten Wulfesberg

We often hear adults telling children, “Use your words, not your behaviors...” or “Just tell me how you feel!” The questions are valid, but often the response we receive is just not enough. True, children do not always have a very expansive vocabulary (especially about emotions). But the reality is, adults could improve their emotional language, as well! Feelings have a bad reputation of getting out of control and ruling us. They are actually our friends. They give us helpful information about how we are thinking, reacting, interacting with others, etc. The more we understand them, the more we can control and use them as ‘personal informants’ instead of ‘the enemy.’

Have you ever tried to explain how you felt about a particular incident, but you just did not feel like you were hitting the nail on the head? And instead, you walked away a bit more frustrated or annoyed? Perhaps it is because you were not identifying your true emotional reaction to the event.

### Base Emotions



I have done many presentations where I ask people to help me list emotions. Happy, Sad, Anger and Fear are often in the first 5. “They’re the most common...the base emotions” which is correct. But they are not the only emotions out there. For example:

- ❖ Sometimes when we say we are sad, it is actually loneliness or shame we feel.
- ❖ Grief, along with sadness, can evoke a sense of being fragile or insecure.
- ❖ Jealousy, betrayal or feeling violated are often misidentified as feeling angry.
- ❖ Sometimes fear is actually feeling weak or helpless.
- ❖ What other examples can you think of?

As a therapist, I have had many people say they need to “get my anxiety under control” or “manage my anger.” As noted above, I always start by making sure we know the root emotion that might be causing those feelings of anxiety or anger (or whatever). Dr Gloria Wilcox’s [feelings wheel](#) is an excellent visual to help us uncover what is hiding in our deeper emotional recesses. Sometimes it is helpful to see some available options, right?

This article by [calm.com](#) outlines beautifully why this is important: by identifying our deeper emotions, we gain more self-understanding, more ability for self-expression,

and a more accurate path towards communicating with others and ourselves.

### Expanding Emotional Language



Are you ready to start expanding your emotional language?

1. Think of a time you had a strong emotional reaction to something... Past or present...
2. Remember the situation and what you initially felt... What was the emotion?
3. Now go back to the feelings wheel and look at other emotional options...
4. What else can fit that moment (besides the primary emotion you originally felt)? It may be related to the initial emotion, or in a different ‘category’...
5. Do this for as many memories or experiences as you feel comfortable.

By no means does this mean that if you have feelings of (for example) remorse or insecurity, you need to run to a therapist. But if you find a common emotional theme in your life and want to explore it, therapy can help. Or if you are especially bothered by your behavioral patterns, maybe [getting in touch with a therapist](#) would be a way for you to learn to use your words, not your behaviors.

*Kirsten Wulfesberg, is the CSU Behavioral Health Specialist, Mountain Region based at Buena Vista office, Chaffee County*

## Colorado Native Plant Master

The mission of the Native Plant Master Program is to educate the public about native plants to foster stewardship, sustainable landscaping and management of weeds that threaten native ecosystems.

The Native Plant Master Field Courses take place over twelve hours and three sessions. The course will cover more than thirty-five plants, of which nine will be keyed in the field. For more information on courses and classes by County, click [HERE](#)

# HIGHLY PATHOGENIC AVIAN INFLUENZA A (H5N1) VIRUS

By Lyndsay Gonzalez



In the Texas Panhandle and Kansas, some dairy farms noticed significant drops in feed consumption and milk production in March 2024. For a short time, there was no explanation for the reduced milk production and symptoms the cows were showing. Finally, samples of unpasteurized milk, swabs, and tissue from sick cattle confirmed the cows had been infected with Highly Pathogenic Avian Influenza (HPAI).

On March 25, 2024, the USDA reported the first HPAI infections in dairy cows. It is believed wild migratory birds were the source of the infections. The strain is H5N1 which is the same that has been affecting wild birds, commercial poultry flocks, and some wild mammals. Currently, the virus has been detected in dairy herds in Texas, New Mexico, Kansas, and Idaho.

In Colorado, there have been skunks, black bear, bobcats, red fox, and mountain lions that have tested positive for HPAI. Boulder County has had 2 positive red fox cases in March 2023 as well as a positive poultry flock. Larimer, Jefferson, and Weld Counties have also had positive cases in wild mammals and domestic poultry. The first case of HPAI in domestic ruminants was a juvenile goat in Minnesota which tested positive in March 2024.

Human infections are rare. One human in Texas has now tested positive for HPAI. The individual was exposed to the infected dairy cattle. There has been one other positive case of HPAI in the United States which was in Colorado in 2022. The USDA says it does not seem the virus has changed to make it more transmissible to humans and risk to the public remains low. Symptoms may include eye infection, upper respiratory symptoms, or severe illness such as pneumonia or multi-organ failure.

## Prevention

The CDC recommends avoiding exposure to sick or dead animals, raw milk, feces, litter, or material contaminated by birds or other animals. If you must be near sick animals or carcasses, use eye protection, a mask, and gloves, long sleeves, pants, and close toed shoes. Wash hands thoroughly. Do not consume undercooked meat or unpasteurized milk or milk products.

Prevention Keep livestock away from poultry, use separate water sources and feedstuffs, and keep livestock away from water sources with wild waterfowl. Watch poultry and

livestock for signs of illness. Symptoms may include reduced appetite, fever, inability to stand, depression, nasal discharge, diarrhea, coughing, or change in behavior. Contact your veterinarian if there are any concerns that livestock or poultry may have the virus or if you have an unexplained death of an animal. If you find 3 or more dead wild birds in an area within a 2-week period report it to your local Colorado Parks and Wildlife office. [Click here](#) for more information.

Depression, difficulty breathing, decreased food or water intake, swelling or purple discoloration of head, eyelids, comb, wattle, and hocks, decreased egg production, sudden unexplained death.

Colorado State University Veterinary Diagnostic Laboratories. Colorado Avian Health Program. Attention: Highly Pathogenic Avian Influenza [Fact Sheet]. 2022. <https://boulder.extension.colostate.edu/wp-content/uploads/sites/7/2022/04/HPAI-Fact-Sheet-CSU-2022.pdf>

**HPAI in Colorado Dairy cattle: First detection confirmed April 25, 2024**

For more information see CDA Press Release below:

<https://ag.colorado.gov/press-release/usda-confirms-detection-of-avian-influenza-in-dairy-cattle-in-colorado>



*Lyndsay Gonzalez is the CSU Small Acreage Management Coordinator, Boulder County*

## FORESTRY

## ACADEMY



May 18, 2024  
10:00 AM - 03:00 PM

153 DELWOOD DRIVE,  
BAILEY CO 80421

10:00 Am	Opening Remarks
10:15-11:00 AM	Small Acreage - Bonface Manono; CSU
11:15-12:00 PM	Tree Planting & Care - Josh Stolz with One Canopy
12:00-1:00 PM	Working Lunch - Edible Landscaping
1:00-1:45 PM	Fire - Wise Planting - Christopher Jones; Forest Service
2:00-2:45 PM	Pests & Disease - Valerie Nache; Colorado State Forest Service
2:45 -3:00 PM	Closing Remarks
3:00 PM	Tree Pick Up; 10am-3:30pm



For more information contact Chyanne Brown at [chyanne.brown@parkcountyco.gov](mailto:chyanne.brown@parkcountyco.gov)

## Best ways to water your raised bed garden.

By Bonface Manono

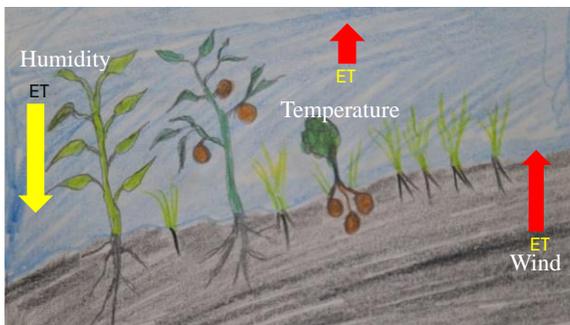
To keep your raised bed garden healthy thriving and productive, it is important to understand and follow correct watering principles. Both how much and how often you should water raised garden beds depends on several factors unique to your setting and can even vary from day to day. The following tips are important.

### 1. Pay attention to your garden.

This will help you identify any problem associated with a broken system, overwatering, or underwatering etc. before the health of your plants is affected.

### 2. Pay attention to the weather and the growing season.

Adjust your watering frequency to seasonal conditions and the garden's needs. Plants require more water when it is hot, dry, and windy. You should pay attention to how quickly water evaporates into the atmosphere. Take note of how fast your garden's water evaporates. Pay attention to temperature, wind, and humidity.



*The higher the wind speed and temperature, the more evaporation; the lower the humidity, the more evaporation.*

If your evaporation rate is high, you are going to have to water more often. Since this may not be visible, stay flexible about your garden's water needs. Please note that in the warm season, plants may shade the surface of the bed to keep the garden moist for longer and prevent evaporation. However, when it is extremely hot, plants will struggle, requiring an increase in watering frequency. On the other hand, many cool season plants like leafy greens require consistent moisture.

### 3. Pay attention to the plant type and the growth stage they are in.

Since plants use moisture to carry out vital functions including photosynthesis, nutrient and sugars transport, and support, you should keep an eye for any signs of stress and be ready to adjust accordingly. Before you add water, be sure it is necessary. Signs of water deficit include:

- ❖ Dry and cracked surface.

- ❖ Wilting leaves and or leaves turning yellowish brown.
- ❖ Slow growth, and brown dry leaf edges.

On the other hand, signs of overwatering include:

- ❖ Yellowish, mildewing or rotting leaves.
- ❖ Constant wet soil.
- ❖ Light green, or yellowish, new growth.
- ❖ Floppy plant.
- ❖ Soft rotten roots.
- ❖ New growth falling off.

Please note that:

1. Plants suffering from heat stress wilt in the afternoon but recover by morning and should not be confused with suffering from water stress.
2. Some plants need more moisture than others. For example, leafy greens like lettuce and spinach need constant moisture.
3. Seeds require moisture to germinate.
4. More established plants can tolerate gaps in water supply.

### 4. Pay attention to watering frequency and depth.

Your watering should be deep enough to moisten the entire crop's root system but not too much to suffocate the roots. You can use a soil probe (or a long metal object) to check watering depth after watering. If the soil is moist, the probe will move through easily and vice versa. This way, the root zone area will be moist while the top one or two inches dries up before you water again.

### 5. Pay attention to the time of watering.

Watering in the morning helps plants to take advantage of the sunlight. It helps the plant to effectively absorb moisture and keep it hydrated before daytime heat. It also prevents loss of water through irrigation and waterborne pests and diseases associated with night watering from water remaining on leaves. Watering in the middle of day leaves water droplets in the leaves which act as miniature magnifying glasses and will be scorched by the sun. If a particular plant is showing signs of stress, just water around that plant, not the entire garden.

### 6. Ensure consistent even watering.

Consistency is key in raised bed garden watering. It should be based on evaporation rate, type of plants, and growing season. If you are using an automatic watering system, you should adjust your timer depending on the weather conditions. Inconsistent watering can cause water stress in established plants, invite pests and diseases or cause drying of seeds and seedlings. On the other hand, consistent watering helps conserve water.

## 7. Pay attention to the watering method.

There are several methods you can use to water your raised garden. Automatic systems include soaker hoses, sprinklers, and drip lines. Each has its own merits and demerits. For example:

Soaker hoses can get clogged, cracked, and sometimes do not water evenly.

Sprinklers can encourage and spread disease since they make leaves wet. Further, spraying water can result in excessive evaporation and deny the soil even moisture in the root zone.

On the other hand, drip lines water the soil, not the plant but provide even water distribution thereby reducing evaporation.

### Mistakes to avoid when watering your raised bed garden.

1. Watering in the middle of a sunny day. This will not only scald the plant leaves but also increase water loss by evaporation.
2. Spraying water directly onto the plant leaves.
3. Most of the water that plants need is taken up by their roots, so aim your water stream where it is needed.
4. Check the soil moisture level before watering your plants.
5. Ensure scheduled routine consistent watering.



## AUTOMATED WEEDER DEMOS

See machines in operation, weeding cabbage as a proxy for other crops, at the CSU WCRC - Grand Valley research farm in Fruita, Colorado.

Learn more about leading automated weeders for vegetable farms, removing weeds both between and in row.

Meet company representatives for more information.

### When:

Friday, May 31st  
9 am - 12:30 pm

### Where:

CSU Western Colorado  
Research Center - Grand Valley  
1910 L Rd, Fruita, CO 81521



Visit: <https://coloradoforfuture.org/sober-may-31-weeder-demos/>  
or scan the QR code for registration and details.  
Registration is required - \$5 fee includes lunch.



Funded in part by a Specialty Crops Block Grant from the Colorado Department of Agriculture



For further questions, call: 970-491-6968  
email: [adrian.card@colostate.edu](mailto:adrian.card@colostate.edu)  
facebook: [dcsu.wcrc](https://www.facebook.com/dcsu.wcrc)

For more information on the Automated Weeder Demos, click [HERE](#)

Are you a hobbyist beekeeper or looking forward to venture into sideline beekeeping? If so, we have a science based beekeeping course for you:

## BEEKEEPING IN THE MOUNTAIN WEST



### This CSU Course is:

- Tailored for the Mountain West.
- Based on six individual courses done separately or bundled together to save money.
- Taught by industry experts & experienced instructors.
- Offered in a flexible self-paced format.

### Course Details:

1. Tuition:
  - ❖ Full Program - \$299
  - ❖ Individual courses - \$69
2. Course type
  - ❖ for the Mountain West.
  - ❖ Open-entry, fully self-led, and online
3. Questions?
  - ❖ [Outreach\\_team@colostate.edu](mailto:Outreach_team@colostate.edu)
  - ❖ (970) 491-2131

### Online Beekeeping Registration site:

<https://www.online.colostate.edu/certificates/beekeeping/>

## TREES IN THE WEST CONFERENCE

*a panoramic gathering for urban and community forestry*

Join us for a one-day conference exploring complex and shared sustainability challenges for urban forests in the Western US from diverse perspectives. Connect with your colleagues, learn from experts, and share your insights!

**Date and Time:** Monday, May 13<sup>th</sup>, 2024.

8:30 a.m. - 5 p.m.

**Where:** CSU Spur Campus, Denver.

For more information on the conference, click [HERE](#)

## Cottage Foods in Colorado

Colorado Senate Bill 12-048 allows individuals to produce, sell and store certain types of “cottage food” products in an unlicensed home kitchen that are non-potentially hazardous and that do not require refrigeration.

### Approved Colorado Cottage Food Products include:

Click on the specific food product link for details.



[Baked Goods](#)



[Candies and Confections](#)



[Dehydrated Produce](#)



[Flour](#)



[Fruit Empanadas and Tortillas](#)



[Honey](#)



[Jams, Jellies, Preserves and Fruit Butter](#)



[Nuts & Seeds](#)



[Teas, Herbs and Spices](#)

Colorado State University Extension has developed a nationally recognized training program that covers the specifics of the Colorado Cottage Food Act and how to safely operate a food business from a home kitchen.

For questions regarding this training or products, contact: [cottagefoods@colostate.edu](mailto:cottagefoods@colostate.edu). For the 2024 Training schedule (online and in-person sessions) refer to this link

<https://foodsmartcolorado.colostate.edu/food-safety/cottage-retail-foods/>

For regulatory questions about the Colorado Cottage Foods Act or to confirm a product can be sold under the Colorado Cottage Foods Act, contact the Colorado Department of Public Health and Environment at [cdphe\\_mfgfd@state.co.us](mailto:cdphe_mfgfd@state.co.us).

## DISPOSING HORSE CARCASSES ON PRIVATE PROPERTY

By Dixie Crowe

There is guidance in Colorado regarding Animal Carcass Disposal put in place in November 2015. Horse carcasses are considered solid waste and must be disposed of in compliance with the Colorado Solid Waste Act. For a horse to be buried on private property, there are several things to keep in mind such as soil type, depth of burial, consideration of ground water impact, but most importantly distance to any residence must be at least one mile. For more details, please follow this link [Animal carcass disposal guidance \(colorado.gov\)](#).

Horses that are humanely euthanized with sodium pentobarbital, aka euthanasia fluid should be buried with precaution. Research studies into the fate of sodium pentobarbital in soil indicate that whether the animal is buried above ground (aka composted) or buried directly in the soil, this drug does not break down or become less lethal over as long as 180 days. [Research: Fate of Euthanasia Drugs During Equine Mortality Composting \(equimanagement.com\)](#).

While many Colorado veterinarians recommend burials to protect scavengers and even pets from being poisoned, the high permeability of some soils along with the fate of this drug is not often considered. Quick lime mentioned in the Colorado document helps bind nitrogen leaching out of the carcass as it breaks down into the soil but does not impact the drug.

As horse owners, on the ever-decreasing acreages, it is important to consider where burial sites are in relation to neighbors, ground water flow, wells, and wetlands. The [Web Soil Survey](#) can help you determine the soil permeability. Further, [Google Earth Pro](#) has a measuring tool that makes it simple to determine distances to water, wells, and residences. Some landfills will take carcasses for disposal. This will remove potential liability from you. It is also important to find out what local laws are in the place where you live.

*Dixie Crowe, is the USDA-NRCS Rangeland Management Specialist based at the Canon City Field Office, Colorado*