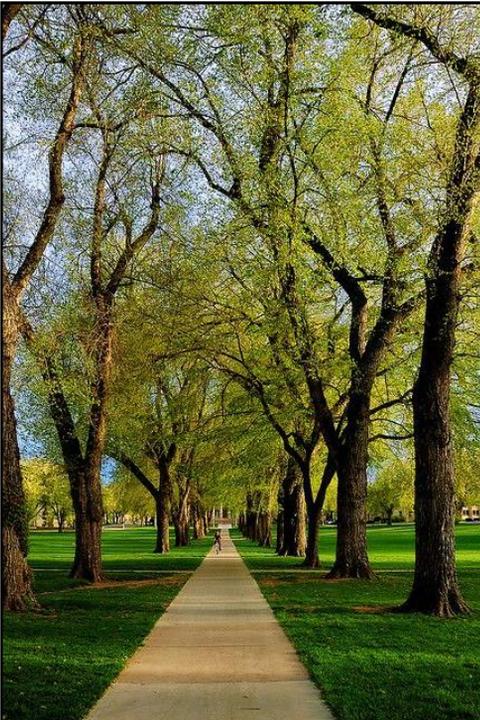




High Altitude Gardening 101

Alison O'Connor
 CSU Extension in Larimer County
 astoven@larimer.org
 CSUHort.blogspot.com

1



What is Extension?

Where University meets Community

- We're the outreach arm of Colorado State University (your land grant institution) that can provide you with information to use every day
- Our offices have the following programs/services:
 - Horticulture and Master Gardeners
 - 4-H Youth Development
 - Food Safety and Food Preservation
 - Agriculture and Natural Resources
 - Community Development (and more!)

Extension.ColoState.edu



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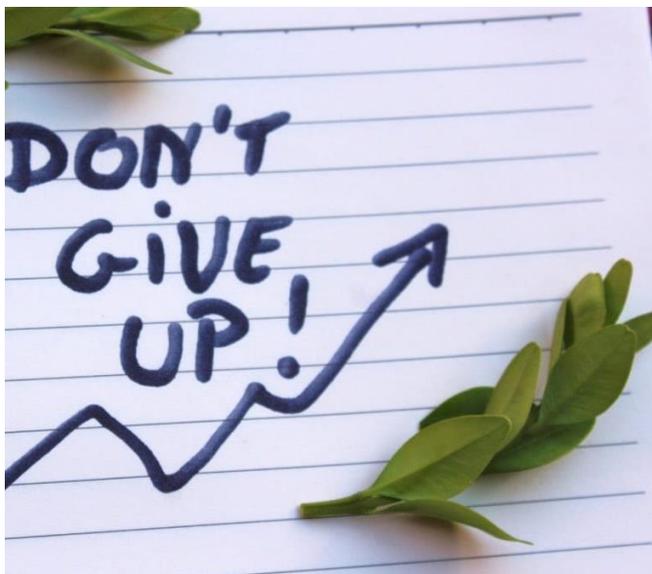
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It's not easy to garden here...

- Cold winters
- Low humidity
- Fluctuating temperatures
- Alkaline and gravelly soils
- Wind
- Animals
- Intense sunlight
- Short growing season
- Lack of water



3



- Colorado gardening can be difficult and frustrating
- You will have failures...and successes!
- Focus on what you *can* grow (not what you can't)
- Keep an open mind and don't give up

4



Use local information

- Using local information, especially information that is research-based and verified, can save you a lot of headaches (and heartache)
- Ask the Experts!
 - Colorado State University Extension
 - Master Gardeners
 - Local garden center and nursery staff
 - Botanical gardens
 - Your fellow gardeners

5

Use local information

- Add “Colorado” and “site:edu” following your search to bring up local and University-based information



best tree for my yard colorado site:edu|



6

Local resources for you

- CSU Extension: extension.colostate.edu
- PlantTalk Colorado: planttalk.org
- CO-Horts Blog: csuhort.blogspot.com
- Garden Notes: cmg.colostate.edu

Larimer County Extension Office
1525 Blue Spruce Drive
Fort Collins, CO 80524
970-498-6000

Email Us Your Questions!

Alison O'Connor: astoven@larimer.org
Larimer County Master Gardeners: larimermg@gmail.com



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7



Drip irrigation

- Often used in:
 - Landscape beds
 - Vegetable or flower gardens

8

Drip Irrigation (aka Microirrigation)

- Targeted water application
- Greater than 90% efficient
- Lower total water use
- Low pressure
- Decreased weed and disease pressure

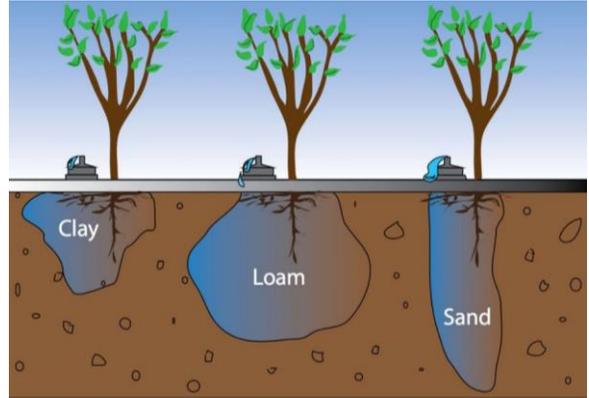


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Successful drip irrigation is dependent upon capillarity

10



Soil considerations with drip irrigation

- Greater capillarity (spreading) with clay soils
- Deeper movement and less capillarity with sandy soils

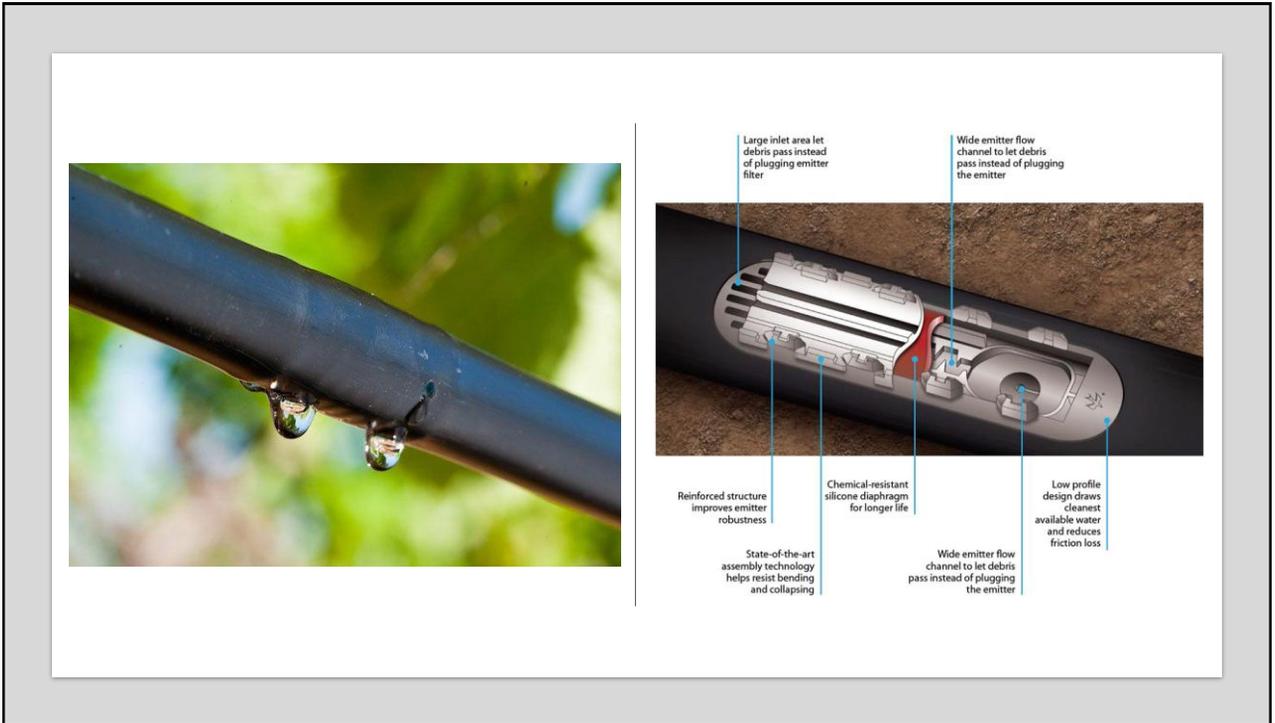
11

Line source emitters



- Easy to install
- Good for rows
- Regular spacing of holes/emitters
- Long-lasting
- Even flow if length restrictions are followed
- Fewer weeds and less disease

12



13

Point Source Emitters



GPH is Flow Rate measured in Gallons per Hour

- Flexibility
- Reliable and resistant to plugging
- Good for individual plants or containers
- Come in variety of flow rates
- Can be expensive
- Break if stepped on

14

Emitter Installation



15

Remember the "goof" plugs!



16

Timers to Control Drip Systems



19



Orbit

Orbit 58911 Complete Yard Watering Kit

★★★★☆ 79 customer reviews | 27 answered questions

Was: \$78.40

With Deal: **\$53.13** & **FREE Shipping**. [Details](#)

You Save: \$25.27 (32%)

In Stock.

Want it Wednesday, June 28? Order within **15 hrs 54 mins** and choose **One-Day Shipping** at checkout. [Details](#)

Ships from and sold by Amazon.com. Gift-wrap available.

Item Package Quantity: 1

1	3
\$53.13	\$221.45

- Fully automatic yard watering kit turns your hose faucet into a 4-station sprinkler system
- No digging is required to easily install this watering system
- One dial controls all basic programming
- Rain delay for 24-, 48- and 72-hour settings

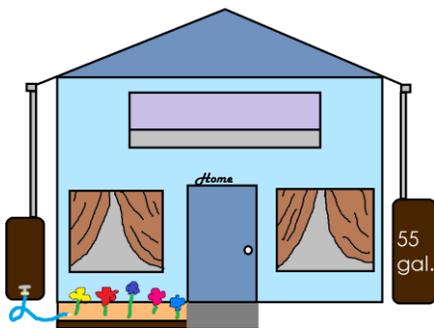
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21

Where can I collect rainwater?

- Precipitation can be collected from the rooftop of a building that is used primarily as a single-family residence or a multi-family residence with four or fewer units



22

Can HOAs prevent rain barrels?

Section 3 of the house bill prevents homeowner associations from prohibiting a unit owner from using rain barrels for precipitation collection



23

How can I use the collected rainwater?

Collected precipitation can be used for outdoor purposes including irrigation of lawns and gardens

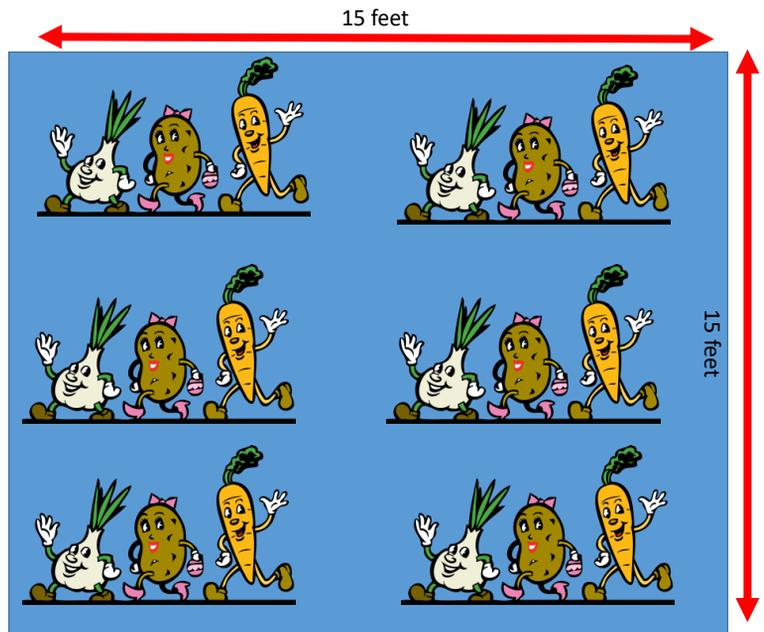


24

What size area will
110 gallons cover?

You can adequately water
approximately 180 square
feet with one inch of water

[Approximately 15 feet x 15
feet]



25

Benefits of rainwater to plants

- It's water...it's free and it's salt-free!
- It's also unchlorinated, which is beneficial to plant growth
- May contain small amounts of nitrogen
 - That's why we generally see a greening effect after a rain event



26

FYI: Rain barrel musts



*** Gutters are an important part of the rainwater harvesting system. Be sure to keep them clear of debris ***

- The downspout attachment must be within 1-2" of the rain barrel inlet.
- The inlet should be lined with mesh or have a collection screen (like a colander) to collect debris and prevent mosquitoes.
- The barrel must have a sealable lid. This will help with draining and cleaning.
- The overflow valve should be located near the top of the barrel; attach a hose or PVC pipe to direct water away from the foundation.
- When full, a barrel can weigh several hundreds of pounds. Consider adding a security strap for safety.
- The water spigot should be located near the base of the barrel for ease of use. You can also attach a hose to the spigot.
- Raising the height of the barrel will result in better water pressure. Place the barrel on a sturdy, secure base.
- The overflow hose, attached to the overflow outlet, must be directed away from the foundation. The overflow hose should be 6-8' long.
- Use any collected water within seven days for landscape purposes only!

27

Grow your veggies in raised beds or containers



28

Why raised beds?

- Soil warms more quickly
 - Earlier planting, fewer days to harvest
- Better drainage, less soil compaction
- Soil improvement is easier
- Planting, harvesting, weeding, irrigation, fertilizing easier
- Easier frost protection
- Greater yield in a smaller area



29

Raised bed lumber concerns

- All current treated wood is safe to use for raised bed gardens
- Creosote-treated lumber
 - “Railroad ties”
 - Safe to use after creosote has stopped “leaking” from wood



30



Other raised bed construction options

- Untreated wood
 - Juniper, redwood, cedar
- Plastic lumber
- Cement/cinder blocks
- Raised bed kits



31



What vegetables will be most successful?

- Any of the cool season crops
- Vegetables that grow and mature quickly
- Smaller-size tomatoes (cherry or slicers)
- Those with shorter days-to-harvest (DTH)

CSU Fact Sheet #7.248

“Vegetable Gardening in the Mountains”

‘Early Girl’ (52 DTH)

32

Veggies: cool season

- Peas – 65 days from seeding
- Cabbage – 85 days
- Collards – 55 days
- Broccoli – 65 days
- Kale – 60 days
- Spinach – 40 days
- Lettuce – 60 days

33



Best varieties for high elevation

Peas

- Sugar Snap
- English Peas
 - Little Marvel
 - Tom Thumb
 - Early Frosty
- Snow Pea
 - Oregon Sugar Pod

Cabbage

- Parel
- Gonzales
- Savoy Express
- Caraflex

Collards – any variety

Broccoli

- Little Gem

34

Best varieties for high elevation

Kale – any variety

Spinach

- Regiment
- Tyee
- Teton
- Red Cardinal
- Space

Lettuce

- Buttercrunch
- Salad Bowl
- Dark Green Boston
- Ruby
- Little Gem
- Mesclun



35

Why garden in containers?

- Can extend the growing season
- Allows gardening in small spaces
- Can be easier for those with physical limitations
- Easy way to introduce gardening to children
- No digging or tilling
- Fewer (and smaller) gardening tools are needed
- Weed-free gardening
- Can locate plants where they will grow best
- Can make it easier to practice organic gardening
- Easier to protect plants from wildlife (rabbits, deer)



36



Best varieties for containers

- Beets – any variety
- Carrots
 - Scarlet Nantes, Gold Nugget, Little Finger, Baby Spike, Thumbelina
- Turnips – any variety
- Radishes
 - Cherry Belle, Scarlet Globe, Icicle

37



Best Varieties for Containers

- Bush beans (60 days)
 - Kentucky Wonder
 - Contender
- Cucumbers (55 days)
 - Spacemaster
 - Salad Bush
 - Bush Champion
 - Lemon
 - Picklebush
 - Midget Bush Pickler

38

Herbs for high elevation

- Most herbs will grow well in containers
- Can keep them going into fall by moving them inside/outside
- Good performers:
 - Parsley
 - Sage
 - Basil
 - Thyme
 - Rosemary
 - Mints
 - Chives
 - Dill



39



Coping with wildlife



40

Managing landscape wildlife conflicts

- Habit modification: eliminate or modify what is attractive to the wildlife
 - Food, water
 - Cover and shelter
- Exclusion
 - Fencing, netting, enclosing
- Aversion: repellents, noise, motion, lights
- Relocation
- Lethal control: trapping, shooting, poisons



41



Habit modification:
eliminate or modify what is attractive to wildlife

- Don't feed wildlife?
- Don't provide shelter or hiding cover, make breeding difficult



42



Exclusion

- Fencing
- Netting

43



Gopher prevention with raised beds

44

Relocating nuisance wildlife

- Is it legal?
 - Yes, for tree squirrels, rabbits and raccoons
 - Others with permit
- Is it effective?
 - Perhaps short-term
 - May increase the nuisance population
- Is it safe?
 - Aggressive, scared wildlife can bite
 - Handling potentially diseased or infested animals
- Will this cause a problem for someone else?



45



Aversion for Nuisance Wildlife

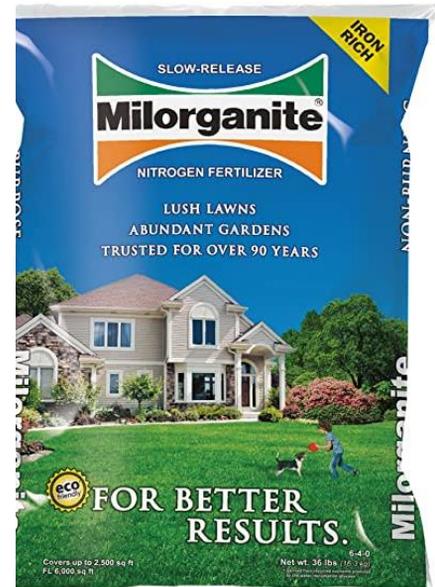
- Taste, odor
- Lights
- Motion-activated sprinklers
- "Fake" predators




46

Vole or rabbit issues? Try Milorganite!

- Was found to repel rabbits and voles (research at the University of Nebraska at Lincoln)
- Can be applied to lawns, landscapes, and vegetable beds
- Apply 15-20 pounds/1000 square feet
- Water in well
- Reapply every 6-8 weeks



47

What doesn't work for wildlife control?

- Chewing gum – for anything
- Mothballs – for rodents
- Ultrasonic sound machines
- Human hair, Irish Spring soap 😊



48

Local resources for you

- CSU Extension: extension.colostate.edu
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49

Join us on Fridays
 at 12pm through
 June 3!

Register at:
csuhort.blogspot.com

CSU Extension Front Range Garden Series - 2022

March 18	Convert Your Turf!
March 25	Pruning Shrubs: Stop the Senseless Shearing
April 1	A Fool's Guide to Zero-Water Gardens
April 8	Vegetable Varieties
April 15	Celebrate Trees for Arbor Day!
April 22	Beneficial Garden Insects
April 29	Introduction to Landscape Design
May 6	Soil Health and Amendments
May 13	Bulbs for Summer Blooms
May 20	Growing Backyard Berries
May 27	Plant Besties - Companion Plants
June 3	Beauty and the Bees

All classes will be virtual, 60 minutes long and will be recorded. To register visit our CO-Horts Blog webinars <http://csuhort.blogspot.com/>



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50

Questions?

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