# YEAR-ROUND GARDENING **IN COLORADO**



COLD FRAMES, HOOP HOUSES, FROST CLOTH, WINTER SOWING, AND OTHER WAYS TO GROW YEAR-ROUND IN COLORADO & BEYOND

Presentation by Idelle Fisher of Picklewix.com in Denver

**VIEW THIS PRESENTATION AT:** picklewix.com/growfood



















# TOP 4 TOPICS ABOUT GROWING YEAR-ROUND IN COLORADO:

- TECHNIQUES TO GROW YEAR-ROUND -
- **BEST CROPS** FOR FALL, WINTER & SPRING
- PERMACULTURE & EDIBLE NATIVES
- SEED RESOURCES & COMMUNITY









## COLD FRAMES, HOOP HOUSES FROST CLOTH & OTHER SEASON EXTENDERS

Every gardener dreams of a greenhouse, but you don't have to have one to grow year-round! Using a hoop house, cold frame or other cover options can create a warmer, more stable microclimate, shielding your plants from frost, snow, and wind. These can effectively extend your outdoor growing season and potentially allow you to grow crops that might not otherwise thrive in Colorado's Front Range climate.







Hoop houses and cold frames are also great for protecting seedlings during cold, stormy weather.

I saw these huge concrete cold frames at a botanic garden in Pennsylvania. WOW!



# TECHNIQUES:

### **BUILD A COLD FRAME**

A much less expensive and sizable alternative to Greenhouses! Also known as hotbeds, hotboxes or "Dutch Lights."







Dad made clever use of the polycarbonate scraps to make two more cold frames!





Three cold frames my dad helped design and build with my sister and I.

**6mm polycarbonate sheets** from: **Colorado Plastic Products** 500 S. Arthur Ave, Louisville **on coloradoplastics.com** 

They sell half-price scraps on some Fridays!





Cold frames can be made lots of ways, such as with recycled materials like:

- windows, doors, shower doors
- clear plastic tubs
- overturned clear saucers
- old skylights, window well covers -
- Stacked brick wall with plastic sheet <
- Hay bales ... get creative!





















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- old skylights, window well covers
- Stacked brick wall with plastic sheet
- Hay bales ... get creative!-



BLACK











Even an overturned clear plant saucer can help germinate & protect cool weather veggies — like lettuce, spinach, kale, tatsoi, chard, onions, cabbage, etc.







FROM A FACEBOOK GROUP POST







# YEAR-ROUND GARDENING TECHNIQUES: COLD FRAMES

### VENTING ON SUNNY DAYS IS VERY IMPORTANT!

You don't want to cook your seedlings. Even in winter it can sometimes get to be over 100°F in my cold frame on milder, sunny days if I don't open the lid.

You can prop open cold frames with a piece of wood, or invest in a automatic vent such as a Univent which uses wax-powered piston that expands in heat and opens and closes the lid without any electricity. Genius.



### TECHNIQUES: HOOP HOUSES

Easy to make, a garden bed hoop house is sturdy and can have a lot more headroom than a cold frame, which is useful for taller plants, and protecting potted plants in spring or fall.

You can build smaller garden bed or planter hoop houses, or dream big and create a large walk-in hoop house!





**HOOP HOUSES** 

Aaron from **earthlovegardens.com** designs and builds raised garden beds hoop houses, along with helping design pollinator and edible gardens.

I love mine! Great for growing over the winter, as well as for protecting potted seedlings or plants in the spring and fall.

#### **VENTING IS IMPORTANT!**

It's easy to roll up the panels to allow for venting during sunny days.













### TECHNIQUES: COLD FRAMES & HOOP HOUSES

Make sure to brush snow off your cold frame or hoop house to let sun in once the storm has passed.

You can make hoop houses from PVC pipe easily too, though I recommend metal conduit as it is a stronger, longer lasting and less toxic option. You will need to get a hoop bender (or engineer one like my Dad did) to bend the metal conduit.

! PVC Note: PVC pipe can out-gas chlorine in sunlight, which causes faster degradation of your cover. Painting the PVC pipes can help.









#### **Hail Socks**

My sister is also super creative and sewed "hail socks" for our garden obelisks to "deploy" during our hail-ey spring storms.



Hail protection ideas, some are better than others.



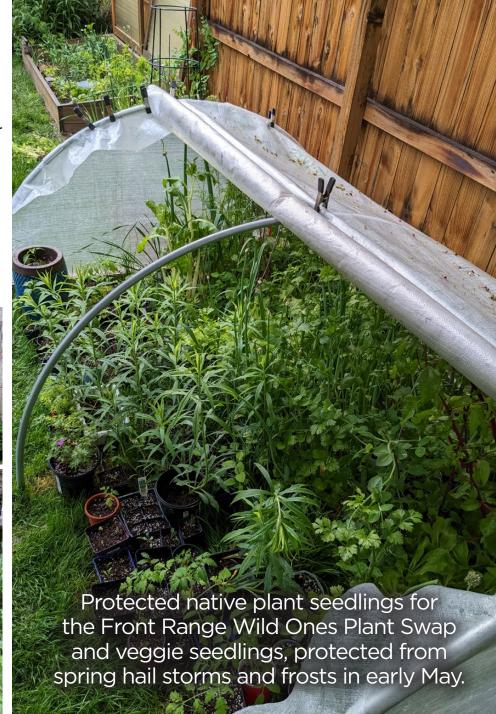












# TECHNIQUES: FROST PROTECTION

Late season protection

You can also use a hoop house to protect late season veggies (if they aren't too tall) from early frosts or snowstorms in autumn.

Various deployed garden protections at my community garden in Denver for next day's snow on Sept 7, 2020 after record breaking heat over Labor Day.

Most plants survived the early storm, especially those that had some cover.





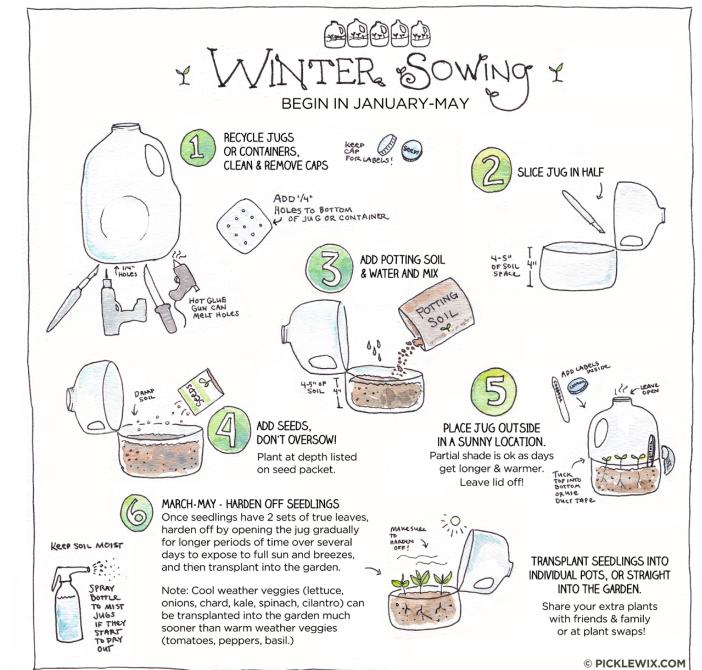
### **WINTER SOWING**

Use recycled containers as miniature greenhouses! A great way to start seedlings OUTDOORS with recycled containers. Any containers can work:

- Vinegar, Water, Milk jugs (cleaned)
- Overturned clear or frosted plastic bins (make sure to vent by adding holes)
- Salad or fast food containers with clear tops

Make sure your container can VENT! You don't want to cook your seeds or seedlings. Leave lids off or make sure there are holes to let out hot air.

Don't forget to water as needed!





YEAR-ROUND GARDENING TECHNIQUES: WINTER SOWING











# YEAR-ROUND GARDENING GARDEN PESTS

Over winter, and into spring, sometimes the aphids like to move in, as they like warmer temps too. I never use pesticides, I typically let them be or remove the affected plant if it's on it's way out. Opening the cold frame or hoop houses can help — and so can helpers like ladybugs and wasps that often appear and help out when pests are present.

I still harvest lettuce with aphids, I just soak in cold water and rinse several times to remove them before eating.

Salad Spinners work great for this!

### And, don't worry... aphids ARE edible

While not traditionally consumed, aphids on lettuce are technically safe to eat and contain high protein content, essential amino acids, and various vitamins and minerals.







# YEAR-ROUND GARDENING BEST CROPS

#### FOR FALL, WINTER & SPRING

Cool weather veggies that grow great in the fall through winter and spring include:

#### **BEST WINTER VEGGIES:**

Start in mid-late summer:

- Herbs: Parsley,\* Thyme,\* Sage,\*
   Winter Savory,\* Rosemary, Oregano
- Mache/Corn Salad \*
- Spinach\*, Mustard\* Arugula
- Claytonia,\* Tatsoi,\* Mizuna,\* Mibuna\*
- Lettuce Leeks\*
- Kale or Collards\*
   (summer-planted kale and collards can live well into winter)
- Carrots (start in summer and "store" in your cold frame to harvest over winter)
  - \*Extra cold tolerant, grow in hoop houses or cold frames in winter











# YEAR-ROUND GARDENING BEST CROPS

FOR FALL, WINTER & SPRING

### BEST LATE WINTER/EARLY SPRING VEGGIES:

- Herbs: Parsley, Thyme, Sage,
   Winter Savory, Rosemary, Oregano,
   Cilantro, Chives & Dill
   (These 3 grow better as it warms up)
- Mint in containers only!
- Green Onions (Egyptian walking onions are great for very early spring green onions which are tastiest in the spring and easy to propagate. I also want to try Potato onions that grow in clusters, they say to plant after St. Patrick's Day)
- Kale, Chard, Arugula
- Cabbage, Broccoli, Brussels Sprouts
- Beets, Turnips
- Celery, Parsnips
- Lettuce
- Tatsoi, Spinach, Mustard











## PEST CROPS

FOR FALL, WINTER & SPRING

Herbs, Garlic & Onions are great for year-round growing.

Parsley, Thyme,
Sage, Winter Savory,
Rosemary, Oregano
Cilantro, Chives, Dill,
or Mint IN CONTAINERS!







### More Year-Round Eating Tips

- Let things go to seed! Lettuce, Borage, Dill, Celery, Cilantro, Carrots, Arugula, Hardneck Garlic, Walking Onions, Tomatillos, Calendula and Marigolds can reseed easily in the garden, or collect for next season.
- Grow Winter Squash stores for winter use!
- Preserve the abundance can tomato sauce, salsas, pickles, dry peppers and herbs, & dehydrate tomatoes or other fruits. Ferment your own saurkraut, veggies, or peppers for hot sauce.
- **Freeze** whole peppers, garlic, tomatillos, tomatoes, fresh herbs, salsas and sauces if you don't have time to can.
- **Dry Herbs & Peppers** for year-round use!
- **Compost** feed your plants with plants!

















### YEAR-ROUND GARDENING More Year-Round Eating Tips

- Start seeds indoors under lights for peppers, tomatoes, eggplant, basil and other warm weather veggies.
- Grow short season varieties for earlier harvests and to get more produce before the first frost comes in fall!
- Direct seed cucumbers, zucchini, squash, 
  pumpkins, lettuce, spinach, cilantro, peas,
  beans, dill. Plant garlic bulbs or bulbils in fall.

**Grow Herbs in water!** Rosemary, Mint, Basil, Thyme all will root in a jar of water.

- **Grow Microgreens** from collected seeds of sunflowers, cillantro, and brassicas.
- Eat weeds! Purslane, Lambsquarters,
   Dandelion and many other weeds are
   edible. Add to salads, stir fries,
   soups or make pesto.

   Lambsquarter Saag paneer is delicious!

















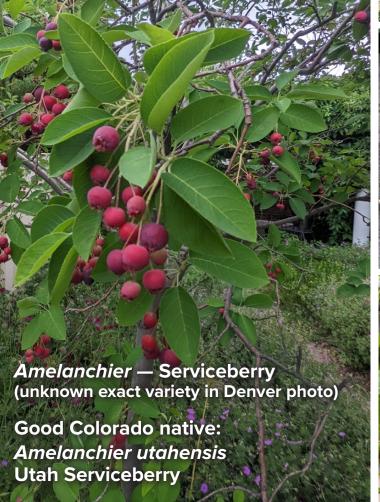




#### Think perennial!

- Herbs Parsley, Thyme, Sage, Winter Savory, Rosemary, Cilantro, Chives, Garlic, Lovage, Lavender, Dill, Yarrow, Mint, Bee Balm, Echinacea, Anise Hyssop, Saffron
- Fruit Serviceberries, Cherries, native Sand Cherries, Apples, Pears, Plums, Peaches, Strawberries, Blackberries, Raspberries, Goji Berries, Golden Currants, Crabapple, Gooseberries, Grapes
- Egyptian Walking Onions
- Horseradish, Lovage, Sorrel
- Jerusalem artichoke
- **Prickly Pear** (cold hardy edible cactus)















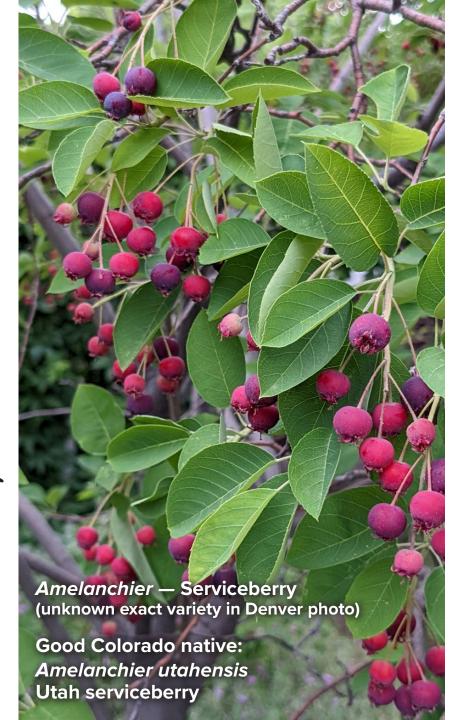




#### YEAR-ROUND GARDENING

# PERMACULTURE WITH EDIBLE REGIONAL NATIVE PLANTS

- Agave (A. parryi, neomexicani, utahensis)
- American plum (Prunus americana)
- Bee balm (Monarda fistulosa)
- Bee plant (Cleome serrulata):
- **Buffalo gourd** (Cucurbita foetidissima)
- Chocolate flower (Berlandiera lyrata)
- Chokecherry (Prunus virginianus):
- Common evening primrose (Oenothera biennis):
- Currants (e.g. Ribes aureum)
- Echinacea/Cut-leaf coneflower (Rudbeckia lacianata)
- Oregon Grape (Vitis labrusca)
- Hackberry (Celtis occidentalis)
- Hops (Humulus Lupulus var. neomexicanus)
- Gambel oaks (E.g. Quercus gambelii)
- **Nodding Onion** (Allium cernuum)
- Prickly pear (Opuntia humifusa, O. phaeacantha)
- Pinyon pine (Pinus edulis)
- Raspberry (Rubus idaeus var. strigosus)
- Sand cherry (Prunus pumila var. besseyi)
- **Serviceberry** (Amelenchier alnifolia, A. utahensis)
- Silver buffaloberry (Shepherdia argentea)
- **Sunflower** (Helianthus annuum)(eat sprouts!)
- **Sunroot** (Helianthus tuberosa)



For more info, join your local
Front Range Wild Ones chapter or
the Colorado Native Plant Society
for more ideas for edible native plants
for your food garden. All native plants
also help with supporting pollinators,
beneficial insects, birds and other
wildlife, so even the non-edible natives
are good for your food garden!





# YEAR-ROUND GARDENING PERMACULTURE WITH EDIBLE REGIONAL NATIVE PLANTS





#### Landscaping with Edible Colorado Native Plants

This list was developed for a presentation given to members of the Front Range Wild Ones on March 4, 2014 by Brian Elliott. The list is not exhaustive but provides a number of plant choices for edible native landscapes in Colorado. It must be emphasized, however, that the use of wild foods can be a hazardous undertaking, particularly if one is unfamiliar with plant identification. One must be certain of species identification prior to using native plant species for food!

If wild plant material is gathered I recommend following the Colorado Native Plant Society's guidance on Ethics of Collecting Native Plants available at www.conps.org/pdf/About\_Us/etics\_of\_collecting.pdf.

TREES AND SHRUBS	ΓREES AND SHRUBS					
Scientific Name	Common Name	Habit	Edibility			
<i>Amelanchier alnifolia</i> and	Saskatoon	medium shrubs	The small pomes can be eaten raw, dried, or pounded and used in			
A. utahensis	serviceberry, Utah	to small trees	pies, cakes, jellies, sauces, breads, and wine. Dried and pounded			
	serviceberry		fruit was also stored in large loaves, some weighing as much as			
			fifteen pounds.			
Crataegus spp.	hawthorn	small trees	The fruit can be used fresh or dried in jams, jellies, pies, sauces, or			
			for wine. The seeds, however, should not be eaten. The fruit can			
			also be cooked, mashed, de-seeded, dried, and then ground into			
			cakes or loaves. These loaves can be used as meal or added to flour.			
			Cooking improves the usually mealy and insipid fruit. Flowers can			
			be used in salads, desserts, and drinks.			
			Colorado species include <i>Crataegus erythropoda</i> (cerro hawthorn), <i>Crataegus rivularis</i> (river hawthorn), <i>Crataegus macrantha</i> var.			
			occidentalis (big-thorned or western hawthorn), Crataegus macrantna var.			
			(willow hawthorn), and the rare <i>Crataegus chrysocarpa</i> (fireberry			
			hawthorn).			
Mahonia repens	Oregon grape	low evergreen	Berry can be used raw, dried, in jelly, for wine, or cooked as a sauce.			
	88b-	shrub	A beverage can be made from mashed berries mixed with sugar and			
			water. Note that the roots, foliage, and stems are inedible, bitter,			
			and have been used medicinally.			
Malus ioensis	prairie crabapple	small tree	The fruit is harsh and astringent (similar to many other crabapples)			
			and is best used cooked for jellies, preserves, cider, and pies. Native			
			to Great Plains states adjacent to Colorado.			
Opuntia macrorhiza	prickly pear	mounded shrub	1) The fruit is edible raw or dried, in jams and jellies, as a sauce,			
			and in many other ways. Fruit quality varies, with some species			
			bearing fleshier and more palatable fruit. The skin, glochids,			
			and seeds should first be removed. Briefly boiling the fruit			
			facilitates removal of the skin, spines, and glochids.			

From website: frontrange.wildones.org/edible-native-plants



#### YEAR-ROUND GARDENING

# PERMACULTURE WITH EDIBLE REGIONAL NATIVE PLANTS





#### Landscaping with Edible Colorado Native Plants

			<ol> <li>Seeds can be dried and used whole or dried and ground to meal for thickening soups and stews.</li> <li>Flowers can be variously cooked and used with other foods.</li> <li>Flower buds can be despined and then roasted, dried, and used in soups and stews.</li> <li>Pads can be roasted, peeled and fried, or boiled first and then peeled and fried. The young pads emerging in early spring are best since they lack spines. Pads with spines can be held with tongs over a flame or coals to singe the spines and glochids.         They may also be boiled until soft and then scraped with a knife to remove the spines and glochids.     </li> </ol>
Pinus edulis	pinyon pine	small tree	Seeds can be eaten raw, dried and roasted, or ground into meal.  The meal is used for cakes, gruel, and thickening soups.
Ribes spp.	currant, gooseberry	shrub	Berry can be eaten raw or used in pies, jams, and sauces. The flowers can also be eaten raw. Gooseberries have stiff bristles on the fruit, while currant fruit is smooth. Several species are native to Colorado. <i>Ribes aureum</i> (golden currant) is probably best for berries. <i>Ribes inerme</i> (whitestem currant) and <i>Ribes lacustre</i> (bristly currant) are other options.
Rosa woodsii	woods rose	small shrub	Wild roses have a variety of uses, including:  1) The rose hip can be used raw, stewed, dried, for sauces, and in jams. The hip is best after a light frost.  2) Leaves can be used for tea.  3) Petals can be eaten raw, put in salads, or dried for tea.
Prunus spp.	cherry, chokecherry, plum	small tree or large shrub	Fleshy drupe can be eaten raw or dried and also used in jam, jelly, bread, pie, cooked for a sauce, and used for wine.  1) Fruit of <i>Prunus virginiana</i> (chokecherry) was sun dried, pounded (with the pits), then formed into cakes for storage. It is astringent and best used as jelly or jam.  2) Fruit of the cherries and plums can be used in the same manner as cultivated cherries but they smaller and sometimes more astringent. Native Colorado species include: <i>Prunus americana</i> (American plum), <i>Prunus besseyi</i> (western sandcherry), and <i>Prunus pensylvanica</i> (pin cherry).

From website: frontrange.wildones.org/edible-native-plants

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# PERMACULTURE WITH EDIBLE REGIONAL NATIVE PLANTS





#### Landscaping with Edible Colorado Native Plants

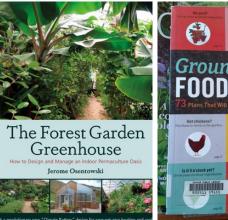
Rubus spp.	raspberry	small shrubs	There are several native species that produce tasty fruit that can be used in the same manner as cultivated varieties. Do not be fooled by <i>Rubus deliciosus</i> (Boulder raspberry, delicious is a misnomer) and <i>Rubus parviflorus</i> (thimbleberry). Neither produces fleshy or palatable fruit.
Peraphyllum ramosissimum	wild crabapple or squaw apple	medium-sized shrub	The fruit can be eaten raw or dried. It can also be cooked for pies, sauces, jellies, etc. Raw fruit may be somewhat bitter, particularly when not fully ripe.
FORBS AND GRAMINOIDS			
Achnatherum hymenoides, previously Oryzopsis hymenoides	Indian ricegrass	perennial graminoid	Seed should be mixed with coals and shaken to singe and remove the hairs, glumes, and awns. Seed can then be ground and mixed with flour, put in soup, or used for gruel. With its large seeds Indian ricegrass was an important food source for southwestern tribes.
Allium spp.	onion	perennial forb	Bulbs and leaves can be used in the same manners as cultivated onions. Dr. Weber lists eleven species in his East and West Slope floras. <i>Allium cernuum</i> (nodding onion) and <i>Allium schoenoprasum</i> (wild chives) are both good candidates.
Chenopodium spp.	goosefoot, lambsquarter	annual forb	Seeds can be threshed and then boiled, mashed, ground for gruel, mixed with flour, or parched. Young leaves and shoots can be eaten raw in salad, boiled, or fried with other vegetables.  A few cautions regarding <i>Chenopdium</i> :  1) Do not eat seeds raw due to the presence of saponins (a bitter, soap-like compound).  2) Avoid the non-native species <i>Chenopodium ambrosioides</i> (Mexican tea) and <i>Chenopodium botrys</i> (Jerusalem oak). Both are medicinal herbs.  3) Finally, <i>Chenopodium</i> is a colonizer of disturbed ground and can become weedy!
Epilobium angustifolia	fireweed	perennial forb	Fireweed has seen a variety of uses, including:  1) Young stems and leaves have been eaten when raw or boiled.  2) Leaves have been used fresh or dried for tea, either alone or mixed with black tea.

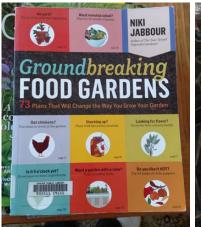
### YEAR-ROUND GARDENING



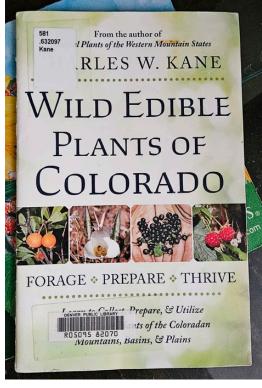
**GREAT BOOKS** 

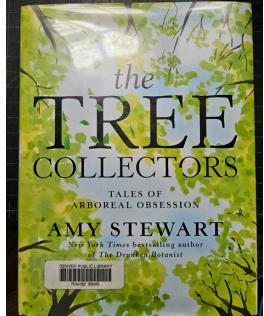




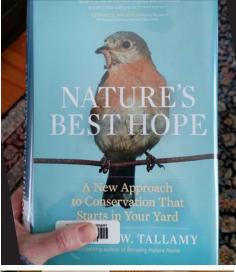


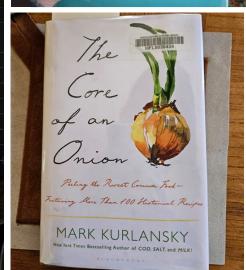


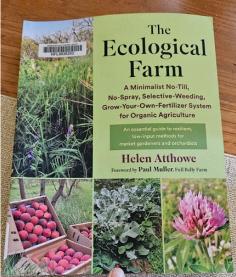














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coloradogardener.com



### YEAR-ROUND GARDENING

#### **SEED RESOURCES**

**Grow & save your own seeds,** and swap, adopt or buy seeds. Here are a few of my favorite sources:

- Seed Libraries & other Gardeners!
- Front Range Wild Ones adopt, swap, and learn how to propagate & share native plants & seeds with the community!
- Sandiaseed.com 101+ peppers, tomatoes, easy veggies
- WesternNativeSeed.com regional natives





frontrange.wildones.org



Sandia Seed donated some **free seeds** to give away for cool-weather veggies and some chiles.

Peppers of the World

Come find me at People and Pollinator's Action Network's table.

### YEAR-ROUND GARDENING COMMUNITY

Join local local gardening clubs, organizations, and neighborhood community gardens to learn and share with others. Take classes, attend webinars, you'll always learn something new.



#### **NATIVE PLANTS = MORE FOOD!**

A great group to join to learn about native plants at events and webinars, and to donate, volunteer, host or participate in their amazing local native plant and seed swaps!



More plates = more plants = more pollinators

Order yours today at www.pollinatorplates.org





PPAN promotes pollinator-friendly practices through community education, engagement and advocacy. Check our their **Pollinator Habitat small grants program**, funded from their Colorado Pollinator License plate program.





#### Love herbs?







### YEAR-ROUND GARDENING THANK YOU!

Thanks to my husband, Todd, for supporting my gardening obsession, and for helping me remove turf, add perfect paths, and dig giant holes to plant trees. Thanks to my Dad and Sister for sharing and encouraging my love of gardening and helping me build our cold frames! Thanks to my Mom for the teaching me to love plants and cooking. And thanks to all the gardeners and organizations I've met over the years for sharing tips, seeds, produce and plants. Happy growing! - Idelle

VIEW THIS PRESENTATION AT: picklewix.com/growfood







"ONE OF THE HEALTHIEST WAYS TO GAMBLE IS WITH A SPADE & A PACKAGE OF GARDEN SEEDS"

- DAN BENNETT

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