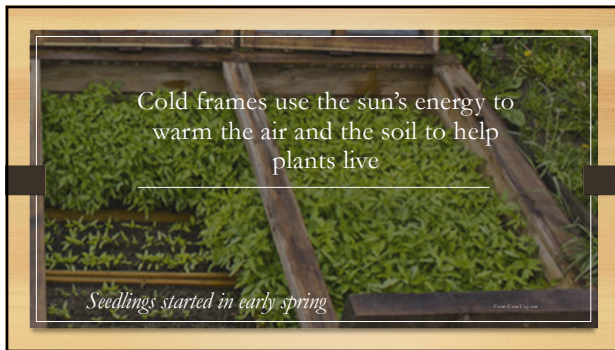
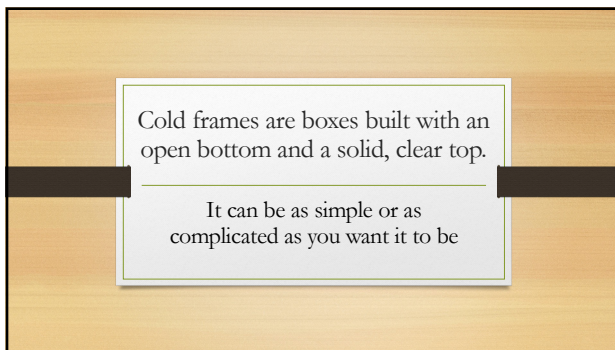




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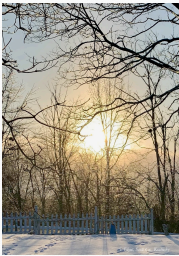
3

WHY A COLD FRAME?

- 1.5 zones warmer than your zone
KY zone 6 = zone 7.5 - 8
- Plant seeds earlier in the spring
- Hardening off plants
- Protects tender plant plants from frost and pests
- Extending the season of fall into winter
- Growing cool season vegetables through winter
- Can be inexpensive to build and portable



4



TEMPERATURE INSIDE COLD FRAME WILL DEPEND ON

outside temperature
sunlight
materials made from
insulation
cold frame position

- During the day, the sun's rays heat the air and soil in the frame; at night, the heat absorbed by the soil radiates out, keeping the plants warm

5

What can you grow in a cold frame?

Cold frames are typically used for cold-hardy plants that need protection from frost and severe temperatures near the beginning or end of season. You can sow seeds directly into a cold frame weeks earlier than the surrounding garden beds. In the same way, you can keep your plants alive 2 to 4 weeks longer in the fall.

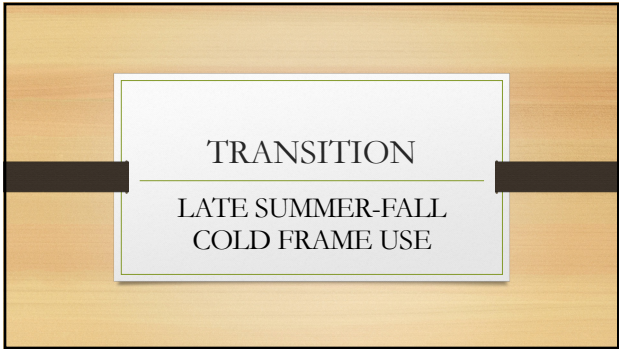
cold frame veggies

Use your cold frame to extend your gardening season by growing a range of cold hardy vegetables.

6



7



8



9

- space close together for insulation value
- leave the lid open so don't overheat
- plant:
 - Spinach
 - Head lettuce
 - Kale
 - Arugula
 - Overwintering cabbages
 - Sprouting broccoli
- Experiencing cold nights/ warm days-keep your cold frame closed at night but open during the day
- below 40 degrees all the time, the lid should remain shut
- Can mulch around the base of your plants with dry leaves, straw or your favorite organic mulch material
- Harvest your crops as needed



10

STOP AND GO
WINTER

11

Take your chances

- spinach, arugula and kale are especially cold-tolerant, as are some beets and even radishes
- If you start these crops in a cold frame or under a row cover, they'll germinate this fall and grow well until true winter arrives
- most will stop growing but not die and start up again during warm spells
- With a watchful eye and bit of care, you can harvest greens, beets and even a radish or two for fresh salads all winter long!

12



13



14



15

START COOL SEASON CROPS

- Direct sow cold-hardy vegetable seeds four weeks earlier than their anticipated date inside the cold frame.
- The cold frame will be the permanent home of the crops you plant inside, so choose seeds and placement wisely.
- For cool-season vegetables, close the cold frame when the temperature dips below 32 degrees F.
- Two weeks before your last-frost date, your cool-season vegetables should be able to survive on their own.

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Transplant Cold-Hardy Seedlings

- Cool-season crops that you start indoors can have early start thanks to cold frames
- pay careful attention to the weather and bring the more tender seedlings inside on nights when it drops below 32° F, inside the cold frame
- Too cold –most winter crops are frost tolerant, they stop growing when it is under 40° F, inside the cold frame
- Close cold frame any time the temperature is below 50° F, inside the cold frame
- Too hot – Likewise, cool weather crops don't like it hot. If the thermostat says 50° F or warmer, crack the cover or take it off completely

17

SPRING COOL SEASON VEGETABLES

<input type="checkbox"/> BEETS	<input type="checkbox"/> LETTUCE
<input type="checkbox"/> BROCCOLI	<input type="checkbox"/> ONIONS
<input type="checkbox"/> BRUSSEL SPROUTS	<input type="checkbox"/> PEAS
<input type="checkbox"/> CARROTS	<input type="checkbox"/> RADISHES
<input type="checkbox"/> KALE	<input type="checkbox"/> SPINACH
<input type="checkbox"/> KOHLRABI	<input type="checkbox"/> TURNIPS



18

Transplant Heat-Hardy Seedlings


- Plants like tomatoes, eggplant and peppers that need warmer temperatures are best started indoors
- but plants can be moved to the cold frame temporarily before planting out in their final positions
- Don't put plants in the cold frame earlier than a couple of weeks before your last expected frost date
- Be aware of forecasts for overnight frosts and cover if needed
- The cold frame will protect them from cold winds and other bad weather that might stunt their tender young growth, while freeing up space indoors for more sowings – will not protect from frost or freeze

19



20

Choose a location with



- Well drained soil
- Set on surface

OR

- Dig down 4 to 8 inches into soil for natural earth insulation

21

COLD FRAME BEST PRACTICES

- Always put your cold frames in a location with full sun
 - preferably facing the south where it gets sun all day
- place it against a house, deck, shed, garage, greenhouse for protection against wind but make sure the structure does not shade the cold frame
- allow it to stand free in the garden, making sure no shade falls across it during the day but do all for wind protection from trees or shrubs, strawbales or bags of leaves on the north side for added winter insulation.
- Keep the top - free of leaves and snow to maximize heat and light
 - However, snow banked around the sides can help insulate



22

COLD FRAME BEST PRACTICES

• Include ventilation

- Prop or stick inserted beneath your lid on warm days
- Automated hinges that are operated either electrically or solar to open and close at set temperatures



Ventilation is vital to prevent overheating

- A minimum-maximum thermometer is useful for keeping track of temperature fluctuations.
- Prop open the cover when the temperature inside reaches 70 ° to 75 ° F
- Close the cover in late afternoon to trap heat

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Ventilation is vital to prevent too much moisture

- Keeps condensation from building up
- Keeps plants from rotting
- Keeps plants from developing mildew and other fungal diseases
- Check moisture - don't overwater
- Water may not easily evaporate in cold frame environments
- Cold frames tend to be moist



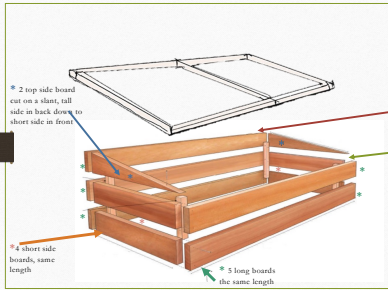
24

RECLAIM RECYCLE

- Windows
- Wood
- Pallets
- Plastic
- Straw Bales
- Fiberglass
- Concrete Blocks
- Brick



25




Most cold frames are taller in the back than in front to make the most of capturing the sun's rays


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SUPPLY LIST OF A BASIC WOODEN COLD FRAME


1-2 x 2 x 4 - cut into 4 pieces of 12" long to serve as corner braces for box



5-2 x 6 x 4" Side boards- top board on both sides is cut in half diagonally from a whole board



5-2 x 6 x 8" Front and back boards/front has 2 back has 3

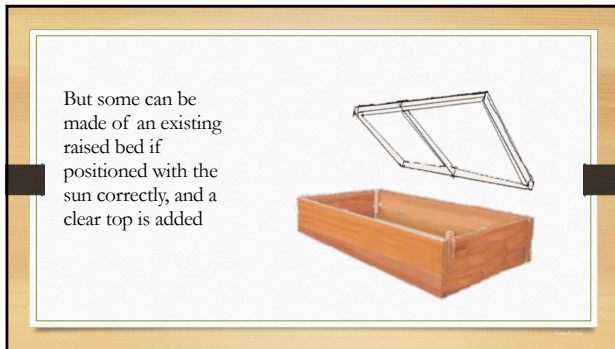


Red lines with arrows on both ends indicate cuts

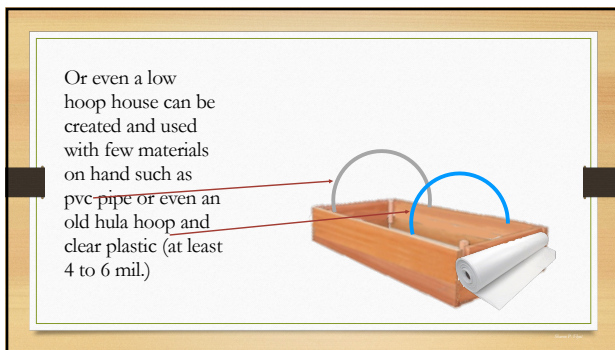
Drawings not to scale

The slide before this shows how it roughly fits together

27



28



29



30



31

RESOURCES

- <https://www.sunset.com/garden/backyard-projects/cold-frames>
- <https://oldworldgardenfarms.com/2019/09/26/diy-cold-frame/>
- Cold Frames & Hot Beds, Cornell Cooperative Extension, Chemung County
- Building and Using Hotbeds and Cold Frames, University of Missouri Extension
- Oregon State University, Straw Bales Work Where Others Won't, <https://today.oregonstate.edu/news/straw-bale-gardens-work-where-others-won%E2%80%99t>
- <https://thisismyogarden.com/2019/10/create-a-simple-cold-frame/>
- <https://eartheasy.com/>
- <https://www.hobbyfarms.com/3-ways-to-start-the-spring-garden-with-cold-frames/>

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SCOTT CO. COOPERATIVE EXTENSION HORTICULTURE PROGRAM

 University of Kentucky
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