

Mobile Walk-In Cooler: Trailer Design/Build



Community Farm and Food Project: Access to Land Livelihood & Learning



Beginning
Farmer
Incubator

A photograph of a market stall under a white tent, displaying several crates of ripe red tomatoes.



**Community
Farm**

A circular photograph of a diverse group of people, including children and adults, standing outdoors in a grassy area and waving their hands.



Education
and
Workshop
Series

A photograph of several people in a field, some standing and some kneeling, engaged in an outdoor activity or workshop.



Stream
Restoration

A photograph of a group of people working on a stream restoration project, with some individuals kneeling on the bank.



Educational
Trail

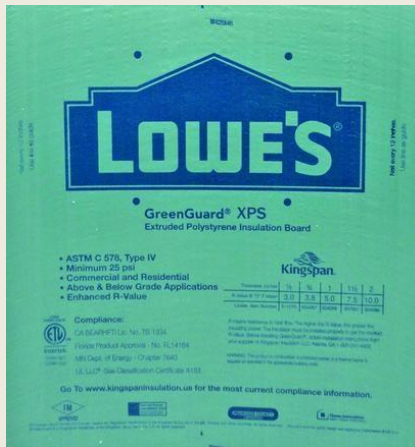
A photograph of a dirt path leading through a wooded area, with a wooden signpost visible in the foreground.



Shortleaf Pine
Reforestation

A photograph of a dense forest of tall, thin shortleaf pine trees.

Mobile Cooler Components



CoolBot Driven VS Traditional



- **\$3500** for USED walk-in cooler plus installation = **83%** less in upfront costs
- **42%** lower operating costs compared to commercial models
- No need for expensive technicians
- Anyone can build their own and obtain most material locally
- Owner can fix problems



Permanent VS Mobile CoolBot Drive System



- [Standing Guide](#)
- Possible Property Tax
- Earth under floor
- Build to spec
- Use existing or salvage building materials
- [Mobile Guide](#)
- Keep product cold for transport
- Only load cooler once
- Add generator for mobile cooling
- If leasing you take it with you
 - (ie Second Spring Market Garden)



Uses & Installations



- Farmers markets
- Direct harvest into a cooler for cooling in the field
- Mobile coolers for hunting trips
- Deliveries to restaurants and customers
- Built on an existing trailer bed
- Built into the cab of a truck
- Converting old reefer units
- Using old buses

Limitations!



- CoolBot systems take longer to cool down.
 - 85°F will decrease to 45°F in about 20 minutes, It can take another 30 minutes before you reach 40°F and an additional 30 minutes to reach 38°F.
- CoolBot systems recover slower after opening the door:
 - Do not open more than 6 times an hour, if so use an AC unit with higher BTUs
- Poor functionality below 36°F/2°C.
- You can't freeze things with a CoolBot
- Running through the winter.
- Automatic restart when power is lost.
- Room is too big or the air conditioner is too small for the room. See: [AC Sizing](#)

Design/Sizing



- What size cooler?
- What type or size A/C Unit?
 - Can use window unit or RV (2x cost)
 - Brands: Stick LG, Hair, per CoolBot
- How much insulation/type?
 - R-25:
 - Polyisocyanurate
 - Polystyrene XPS (Extruded)

Desired Temperature Range					
Fahrenheit	34°F	38°F	42°F - 45°F	50°F - 59°F	
Celsius	1°C	3°C	5.5°C - 7°C	10°C - 15°C	
Use Case					
	Brewing: Lagering	Produce Restaurants Meat / Hunting Keg Chilling Beer Chilling	Flowers	Wine Cheese Meat Curing Brewing: Fermenting	
Cooler Dimensions*					
Length	Width	Air Conditioner Size (BTUs)			
4'	4'	10K BTU	8K BTU	7K BTU	5K BTU
6'	6'	15K BTU	8K BTU	8K BTU	5K BTU
6'	8'	18K BTU	10K BTU	10K BTU	5K BTU
8'	8'	24K BTU	12K BTU	12K BTU	7K BTU
8'	10'	24K BTU	15K BTU	15K BTU	8K BTU
8'	12'	24K BTU	18K BTU	18K BTU	10K BTU
10'	14'	24K + 15K	24K BTU	24K BTU	15K BTU
Larger Sizes		Multiple A/Cs and CoolBots - Please call us at 888-871-5723			

Budget



Trailer	1	\$1,600.00	\$1,600.00
Air Conditioner	1	\$400.00	\$400.00
Insulation	24	\$33.87	\$812.88
Coolbot	1	\$300.00	\$300.00
Metal & Welding Supplies	1	\$80.00	\$80.00
Wiring for plugging in exterior	1	\$30.00	\$30.00
Additional wood and screws	1	\$60.00	\$60.00
Spray Foam	4	\$4.50	\$18.00
Paint-Polyurethane	2	\$40.00	\$80.00
Plywood	2	\$15.00	\$30.00
Total			\$3,410.88

Construction Process



Main Materials

- Insulation:
 - R-20 at least on all surfaces
- Air Conditioner
 - Size and brand recommended by CoolBot
- Power/Wiring
 - 110V or 220V depending on BTU
- Hardware
 - Screws of specific length to hold it all together

Construction Process: First Build



Construction Process



Construction Process



Construction Process



Construction Process **First Build Complete**



Construction Process: **Second Build**

5'x8'x6'



Construction Process



Special Materials Used



- [Insulation Tape](#)
- [Spax 6" Screws for Flooring](#)
- [Spax 5" Screws for Walls](#)
- [LG A/C 15,000 BTU](#)
- [Beam Trailer Sales](#)
- [CoolBot Hook-up Video](#)
- [InkBird for Heating Walk-in during Winter](#)

Questions?



Chris Link

Community Farm and Food
Program Manager

chris@appalachian.org

828.490.2565

Appalachian.org