FLYWHEEL FARM:
A MOBILE PACKSHED FOR LEASED LAND

Challenge: A cleanable packshed and cooler for leased land
Solution: An 8’ x 20’ movable packshed and Coolbot powered cooler

Farm: Flywheel Farm, Woodbury, VT

Operators: Ansel Ploog and Justin Cote

In operation since: 2013

Size of farm: 2 - 4 acres in production

Markets: 30% retail, 70% wholesale

Number of farmworkers: 2

Size of wash/pack area: 8’ x 8’

Construction time: 80 unskilled labor hours

Type of wash systems: Triple-dunk leafy greens and other produce in utility sinks

Total project cost: $3,700
Ansel Ploog and Justin Cote are newly established farmers, currently farming on leased land. Although the land has an old barn, it would require a lot of costly improvements to turn it into a cleanable space for washing and packing produce. Instead, Ansel and Justin built a small wash/packshed and cooler in phases over a couple years. The design for both their packshed and their roadside farmstand came from a plan for an 8’ x 8’ woodshed in a magazine. Because the packshed is not on a foundation it would be possible to move it to another location. Since they are a relatively small operation, the small size of the packshed works well for them.

“We built it this size because we are not investing a lot in infrastructure on our leased land. It cost $3,000 -$4,000 to put it all together. It seemed like a lot of money at the time, but we are at the point in our farm where one of the things we value most is our ability to adapt, so we don’t have a plan that goes any further than 5 years out. When we talked to debt counselors and people about borrowing money, they really advocated that we just put something together that was small and cheap. It may not suit where we are in five years, but it is not going to dictate where we are either. Say we built something that was huge and we’d be constantly trying to fill it. Maybe having that space would dictate what we were doing and that is not how we wanted to run out business.”

**First year:** They put up 8’ x 8’ structure, no electricity or phone, three plastic sinks and fittings

**Second year:** Expanded structure by adding 5’ x 7’ space x 6’-ft. high for cooler (bringing total size to 8’X 20’); fitted cooler with air conditioner and Coolbot; added electricity and internet.

---

**WHAT WORKS WELL**

**Cooler:**
A vinyl floor, walls and ceiling of FRP and removable, off-the-floor shelving makes the cooler easy to clean. "We really liked how it turned out with a non-porous wall, non-porous floor, it was worth getting the dairyboard (FRP)."

**Greens processing:** Ansel and Justin knew they wanted to triple-rinse their greens for food safety and long shelf life. Three plastic utility sinks were an inexpensive option that works well for the volume of greens they handle.

“We wanted three sinks and we wanted them all to be the same, we didn’t want one bathtub and one sink! We wanted it to be uniform and easy.”
Small space = everything is within reach: The small size of the packshed works well for their two-person business: “We need to be really efficient. The whole wash/pack operation can be run by one person. We have everything we need in one space.”

Wiring and telecom mean more efficient all-around operation. Because they spend so much time at the packshed, when they ran the electrical wiring for the Coolbot, they also added internet. “The packhouse is now the electrical and communications hub for the whole farm! Early on we had our phone somewhere else, everything was spread out, so doing a simple task involved moving around the farm quite a bit, now we are getting to the point where we feel we can do a complete task from one point.”

Designated buckets: “These two buckets are cull buckets: when we are pulling out greens or other vegetables, rabbit food goes into the rabbit bucket and the compost bucket is for everything else”

Drainage bench: “We built a drainage bench so that we can move greens out of the sinks and pile them up and have them draining so one person can just work in here mid-morning and the other person can keep picking.”

Dedicated sinks: “The utility sinks are just for crops. There is an outdoor sink for washing tools, hands, or filling up water bottles for ourselves.”

WHAT COULD BE IMPROVED

Lighting: “We haven’t set lights up yet, so it gets dark in here during a thunderstorm or late in the evening, it is really hard to process and sort greens when there isn’t light in here so those are two things that I think are going to be changes for next year.”

Zoned Storage: They are considering putting a refrigerator inside the cooler for crops that need lower temperatures and more humidity, and/or adding a heater so product in the cooler does not freeze on the coldest winter days. A little more space for storing crops that are not kept in the cooler, such as tomatoes, would be helpful
Consider a Coolbot: “The Coolbot made the cooler much more affordable. We used the cool-bot website for much of the design of the cooler.”

Analyze how you do things naturally: Flywheel Farm’s packshed becomes a magnet for things that are not put away right away. Ansel and Justin drop things off there as they pass by throughout the day. Because so many tools and clothes end up at the packshed and not the barn, they added hooks for clothes and a tool storage area.

Think about ceiling heights when you are laying out your initial design: make sure you are allowing enough headroom for your tallest employees! “The difficult thing with the addition for the cooler was fitting it into the existing space we had already built here. I wanted the packshed to have one floor… without a step down or a step up and I wanted my roof to stay the same too …[so to keep the floors flush], the cooler became a very short space.”

Consider the crops you process in your design: “We process all of our roots outside, but we don’t process a lot of roots. If you know you want to do carrots and need a root washer, you would have a very different set-up.”

A YouTube video of Ansel and Justin talking about the packshed and how they built it is available at Building a Small-Scale Open Produce Packshed: Flywheel Farm.

---

### COSTS

<table>
<thead>
<tr>
<th>COSTS OF COMPONENTS</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lumber for 8’ x 20’ structure (both phases combined)</td>
<td>$1,500</td>
</tr>
<tr>
<td>(Most purchased from lumber yard. Scrap pressure-treated lumber from a yard sale made a great floor)</td>
<td></td>
</tr>
<tr>
<td>Plastic utility sink</td>
<td>$60 each (Home Depot)</td>
</tr>
<tr>
<td>Plumbing fixtures</td>
<td>$100</td>
</tr>
<tr>
<td>Insulated cooler walls</td>
<td>$300 (found 4”ISO insulation on Craigslist)</td>
</tr>
<tr>
<td>Air conditioner for cooler</td>
<td>$300</td>
</tr>
<tr>
<td>Coolbot</td>
<td>$300</td>
</tr>
<tr>
<td>Electric wiring</td>
<td>Approximately $450</td>
</tr>
<tr>
<td>FRP (dairyboard) for cooler walls</td>
<td>$350 ($33.45/4’x8’ sheet)</td>
</tr>
<tr>
<td>Vinyl for cooler floor</td>
<td>$4.70/square yard</td>
</tr>
<tr>
<td>Designated hand sink</td>
<td>$4 (from a secondhand home goods store)</td>
</tr>
<tr>
<td>Insulated door for cooler</td>
<td>$200 (new from Home Depot)</td>
</tr>
</tbody>
</table>

Any reference to commercial products, trade names, or brand names is for information only, and no endorsement or approval is intended.