GILDRIEN FARM:
INNOVATIVE BEST PRACTICES FOR AN EXISTING OPEN PACKSHED

Challenge: Need for an inexpensive but cleanable packshed on a new farm
Solution: Turned an existing outbuilding into an open packshed by removing walls

Farm: Gildrien Farm, Leicester, VT
Operators: Jeremy and Caitlin Gildrien
In operation since: 2008
Size of Farm: 60 acres
Markets: 36% Wholesale, 64% Direct Market/Retail
Number of farmworkers: 4.5
Size of wash/pack area: 12’ x 18’
Time to construct: 3 hrs.
Type of wash system: Two 100-gallon stainless steel dunk-tanks
Total Project Cost: $8,000
GENERAL DESCRIPTION

After three years of farming on leased land, Jeremy and Caitlin Gildrien purchased their farm in 2012. Initially a dairy farm, the property came with a 36’ x 18’ barn and a separate 12’ x 18’ stick-frame milkhouse. Gildrien Farm does most of its processing in the warmer seasons, and Jeremy likes the good ventilation and natural light of an open-air packshed. For this reason, they chose to use the existing milkhouse as their wash/pack area. Jeremy tore out everything except for the stick frame. He was left with an open structure with a roof and concrete floor.

Jeremy has tried to keep what worked and address what does not. For example, when birds kept getting into the packshed, he wrapped the entire structure in bird-netting, thus effectively keeping birds out, but maintaining the light and airiness of an open structure. The changes Jeremy has made are great examples of how implementing food safety best practices does not have to be expensive - one can practice good hygiene and sanitation by using low-cost materials and a little creativity and discipline.

WHAT WORKS WELL

**Stainless dunk-tanks and double rinsing:** Jeremy purchased two 15” deep, 100-gallon stainless tanks on Craigslist, and is contemplating getting a third. “I like their depth. I can fit three to four harvest crates in the first tank at one time and there is still plenty of room for the soil to settle to the bottom while the produce floats on the top. Deeper tanks are also much more efficient at removing field heat than shallow tanks because there is a higher surface to volume ratio.” For example, Jeremy states that because his tank is 100 gallons, he can put 100 lbs. of broccoli in the tank and by the time he is done cleaning the broccoli, the water temperature has not warmed nearly as much as it would have if he were using a shallower tank with less volume.

**Overhead hoses, stainless steel spray nozzle with quick connect and hands-free-sprayer:** Jeremy has a couple hoses hanging loosely on the rafters – this way they are off the ground and he can move them around to where he needs them. Because he uses the spray nozzle for so many different functions: spraying down crates of produce as soon as they come in to keep them cool; cleaning produce on the spray table or at the hands-free sprayer, rinsing off the floor and surfaces, Jeremy invested in a Gilmour stainless steel sprayer nozzle. “I really like it and think it will not break as quickly as some less ex-
pensive models.” It has a quick connect which makes it easy to pop onto different hoses and the homemade hands-free sprayer Jeremy adapted from a desk-lamp arm. “Quick connects are great.” Jeremy makes sure to only use quick connects without lead or CA prop 65* materials. * California prop 65 or the Safe Drinking Water and Toxic Enforcement Act of 1986 lists toxic chemicals to be kept out of drinking water.

**Lightweight tables:** Instead of having tables on wheels, Jeremy adapted inexpensive plastic tables for his work counters. “The plastic tops mean they are cleanable, but they are light enough to be moved around the space as needed for spraying or packing, and provide flexibility in a small space.”

**Food-grade plastic containers:** Jeremy stores his produce in closable hard plastic totes that he purchased used a few years ago. He is estimating they will last 15 years. A flip-top crate costs $8 (15 1/19 wax boxes would cost $1.75-2.50). This means that it takes 8.5 reuses of the flip-top crate to break even and recoup the cost of the crate in one season. Since the totes Jeremy bought did not have drainage, he experimented with different sized holes and found that five to six ¼ holes drilled in the bottom of the totes worked best.

“Because the plastic totes maintain moisture better than wax boxes, even after a week in the tote, produce looks like it has just been harvested that morning. Stem wounds on broccoli kept in the plastic totes do not brown the way they will in wax boxes. The totes also stack better than wax boxes, you can put lots of weight in them and they do not crush. The only downside is that workers need to remember to leave a little space at the top for when the crates are closed. You just need to remember to not put some crops, like broccoli, display side down in the crates – if you do, the tops might get a little damaged from sitting in the water that stays in the bottom of the totes.”

Jeremy likes plastic flats better than cardboard tomato flats because they can be stacked on top of each other, do not crush, and they can be washed out, unlike the cardboard tomato flats which get stained and dirty over time.

**Waterproof labels for pack date and other traceability information** work for totes in the cooler. “The labels are significantly more expensive than masking tape, but they stay on wet boxes or crates, and will peel off later.”

**WHAT COULD BE IMPROVED**

**Hard plumbing the building:** Jeremy would like to plumb each fixture separately in order to improve efficiency by allowing him to run multiple faucets at the same time.

**Bring cooler and packshed closer together:** The cooler is in the barn, and time spent bringing produce over there is a significant inefficiency, one Jeremy plans on remedying in a few years by moving his existing packshed or building a new one on the north side of the barn where the cooler is located.

**Overhang to provide shade and cover when loading and unloading truck:** Jeremy would like to have a larger overhang or on the shed, perhaps with an overhead sprayer, so that when the truck comes in from the field, he could immediately spray down the produce in crates in the truckbed, but parked in the shade under the overhang. Then he could pull out crates as needed to wash the product.

**Spray table and drying rack:** Jeremy is planning on building a wire mesh spray table and a drying rack for boxes so they could drip dry in the packshed before going in the cooler.
ADVICE FOR OTHER GROWERS

Consider an open-air wash shed: “They have good ventilation, are easy to clean and wash down, and I prefer natural light for grading produce.”

Build bigger than you think you need: “The more space you have, the better. When the whole crew is in the wash shed and it is full of produce, the area can feel very small and people are bumping into each other.”

Make sure your wash/pack area is as much in the shade as possible. Jeremy covered another open washshed he had on his earlier farm with 80% shade cloth to maintain cool temperatures inside for both produce and people.

Make doors wide enough for people to move comfortably in and out of shed with boxes in their arms and avoid having steps going up or down.

Don’t make your tables fixed or heavy, or at least have some that are light and can be moved around as needed.

Think about flow: “How are you going to avoid getting in one another’s way when everyone is working in the wash area? Design it so that product flows in one direction as much as possible so you avoid backtracking and lifting or moving product as much as possible.”

Design equipment and processes so that they are not dependent on you personally doing things right. “Employees may not be as experienced as you and will rarely be careful as you are, or think as much as you do about a process or how much time it takes to do something.”

Buy items that will not break easily: “The investment in a more expensive but well-built piece of equipment may be worth it in the long run. For example, you could buy a $5 mesh and plastic strainer for fishing debris out of the dunk tank, but you may have to replace it due to breakage or rust 3x/ year, or you could spend $20 on a solid one-piece stainless strainer that will last you 10 years.”

Make or adjust the heights of tanks, tables and other work areas so that you have to bend as little as possible. Jeremy tries to avoid having to bend down to spray things, because it takes less time than having to bend down and stand up.

COSTS

<table>
<thead>
<tr>
<th>COSTS OF COMPONENTS</th>
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<tbody>
<tr>
<td>Used stainless dunk tanks</td>
<td>$200 each (Craigslist)</td>
</tr>
<tr>
<td>PVC pipe for drainage from tanks</td>
<td>$7 (scrap from another project)</td>
</tr>
<tr>
<td>Stainless spray nozzle</td>
<td>$18 (hardware store)</td>
</tr>
<tr>
<td>Quick connects</td>
<td>$10 (various hardware stores)</td>
</tr>
<tr>
<td>Plastic tables</td>
<td>$20 each (Home Depot)</td>
</tr>
<tr>
<td>Birdnetting</td>
<td>$25 (Agway)</td>
</tr>
<tr>
<td>Food grade fliptop plastic bins</td>
<td>$8 (Craigslist - food grade totes)</td>
</tr>
<tr>
<td>Waterproof labels for shipping containers</td>
<td>$130 for 2,500 4x2 stickers (Onlinelabels.com)</td>
</tr>
<tr>
<td>Barrel washer</td>
<td>$2,000 barrel washer (VT Vegetable and Berry Growers Association listserv)</td>
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Any reference to commercial products, trade names, or brand names is for information only, and no endorsement or approval is intended.