

MELON

Sarah Leong
Squashington Farm

Ben Jackle
Mile Creek Farm

Richard Vinz
Olden Organics

Location	Mount Horeb, WI	New Lebanon	Ripon, WI
Acres in Vegetables	4	12	85 acres
Acres in Melons	0.05	0.5	2 acres

How these tasks are done for Melon:

field prep/tillage	with a walking tractor	with a tractor	with a tractor
transplanting	by hand	with a tractor	with a tractor
cultivating	do not do this task for melons	with a tractor	do not do this task for melons
mulch laying	by hand	with a tractor	with a tractor
laying irrigation lines	by hand	with a tractor	with a tractor
laying row cover	by hand	by hand	by hand
spraying for pests/diseases	by hand	with a tractor	with a tractor
farming style	certified organic	certified organic	certified organic

Propagation

Varieties	<p>Muskmelons: arava - SO delicious at full slip. many customers said it was the best they've ever had; rodents love it too, not super prolific grislet - looks/tastes like heirloom french varieties, grows like a hybrid. Customers love it.</p> <p>Watermelons: sweet dakota rose - HUGE, BEST-TASTING pink flesh; HUGE (not many want a 30# melon) minilove - small, red, delicious. Many customers said this was the best watermelon they ever had; Seed is a bit pricey.</p>	<p>For the past two years we have grown Goddess (cantaloupe) and Yellow Doll (watermelon). When we began regularly growing melons for our CSA 6-7 years ago we tried a wider selection of melons, but 3-4 years ago settled on Halona and Yellow Doll as the most consistent and reliable given our farming systems/goals. Since Halona is no longer available we've switched to Goddess.</p>	<p>Cantaloupe: Goddess, Divergent, Halona, Athena, Thunderstruck</p> <p>Watermelon: (seeded) Yellow Doll, (pollinator) Sugar Baby, (seedless) Captivation, Fascination</p>
-----------	--	---	--



Soil Mix	Vermont Compost Fort Vee	Ohio Earth Food, Seed Catapult	Ohio Earth Food - Seed Catapult
Seedling Trays	38's round/shallow	72 cell flats with webbed carry flat	36 or 38 cell trays
Propagation Schedule	seed: 5/9 transplant: 6/9	We seed melons week 20 (week of May 9), 24 (week of June 6) and 26 (week of June 20)	April 8 and May 15 seeding dates and transplanting to the field on or around May 15 and June 15.
Greenhouse Seeding	Seed be hand, 1 seed/cell unless using old seed (then 2 seeds/cell) water in well germ chamber ~5 days	Manually dibble holes with fingers, drop seeds in (we don't worry about polarity, etc.)	Seeded and put on wagon, then covered with floating row cover (creates high humidity for germination) to prevent rodent or bird damage until they emerge.
Germination	Germ chamber ~5 days, then on to heat mats in the greenhouse close to the heater for ~ 1 week. Then moved off heat mats to the south side of the greenhouse where we roll the side up high ~1 week. Then out to the harden off area ~ 1 week.	First round of melons would go on heat mats in greenhouse (usually these are set at 72) while 2nd and 3rd rounds usually don't. Since melons generally germinate quickly and we haven't historically had germination issues they aren't a high priority for heat mat space.	N/A
Greenhouse Irrigation	Water by hand (just like the rest of our greenhouse) 2-3 times per day depending on weather	As needed, manually with hose. Prior to germination and when seedlings are very small with orange Dramm mister, then with regular shower head.	Hand wand every other day to twice a day depending on temp and sun.
Greenhouse Conditions	Grown by many other things, so they don't get too much extra special treatment. Like to keep them nice and warm for the first couple weeks post emergence next to the heater and on heat mats. Then we want them to toughen up for the field. Ideally the greenhouse is 70-80 during the day and 60 at night.	Optimal conditions would be on heat mat set at 76-80 using humidity domes at night with proper ventilation during day to prevent greenhouse getting too hot and flats drying out too quickly. In reality we haven't had issues with melon germination therefore we don't worry about it too much. We have temperature controlled ventilation fans set to come on when house gets to 80 and have shade cloth on house by June 1.	55-60 at night, full sun 75-85 during the day.
Hardening Off	Moved off heat mats to the south side of the greenhouse where we roll the side up high ~1 week. Then out to the harden off area for ~1 week until transplanting.	We move melons out ideally a week (plus or minus a couple days) before transplant. We spray heavily with surround and place cucumber beetle lures around melon flats.	Move wagon from our propagation greenhouse to our hardening off tunnel where we move in and out for 4-10 days, depending on weather conditions
Greenhouse Pests or Diseases	Not yet. We just try to not overwater.	Cucumber beetles are the only pest we really run into. We use yellow sticky cards with a lure to trap beetles in the greenhouse and outside on wagons as melons are hardening off	Some years, birds or rodents (chipmunks), Covering has prevented this damage.

Additional Notes		Goddess is always ready to transplant a few days before yellow doll. sometimes this works in favor of goddess, sometimes in favor of yellow doll.	
------------------	--	---	--

Bed Prep

Preceding Vegetable Crop	greens assorted successions (usually roots) legumes	We always try to put cucurbits as first cash crop after full year cover crop. Typical three years prior to cucurbits would be brassicas, fall roots, cover crop, cucurbits	cover crops - see below
Preceding Cover Crop	either winter killed oats or rye	If we were coming out of fall roots we would ideally have a very late seeded broadcast rye, followed ideally by a short buckwheat, then seeded to oats/crimson clover in early September. Oats will winter kill and crimson would be terminated mid April to mid-May as field conditions, etc. allowed or cropping needs required.	2 years of cover cropping (oat/pea/clover) followed by (rye/vetch)
Soil Amendments	Chicken crumbles, broadcasted with the Earthway (~1/3 of a 5 gallon bucket/row) and compost (~1")	CPM @ 1 ton per acre, Gypsum @ 500lbs/acre and Potash @ 200lbs/acre broadcast either onto standing cover in spring or onto disced ground before hilling. Directly into bed right before laying plastic we will also put down 50/50 mix of CPM and Guided Nitrogen (12-0-0) at 500lbs/acre.	Mushroom mulch (25-30 yds/acre) and Re-Vita Pro (300lbs./ac) all other mineral applications vary based on soil testing
Bed Prep	We discovered that landscape fabric over winter killed oats with zero tillage makes for lovely beds, so we will try that again this year. In years prior, we would have terminated the rye in spring (April) with the BCS by mowing and then rotary plowing on the downhill side of the bed to shoot soil up hill. ~2 weeks later, power harrow with BCS. Then cover the entire melon area with landscape fabric, securing with heavy duty staples. We like this to be set the first week of June.	Chisel plow, disc, disc bedder that hills and roughly levels bed, rototiller (use front mounted fert spreader during this step) and lay plastic	Incorporate cover by disk or chisel plow depending on amount of green material to incorporate. Then let sit for 2 weeks for decomposition and power harrow.

Mulch	Permeable black landscape fabric with holes every 2.5'. All laid by hand and secured with heavy duty staples. One row of drip is laid underneath. Using landscape fabric changed the melon game for us! It's the only way we can keep weeds down.	Green plastic with first two plantings (green was recommended to us and we've had success with it, but we haven't done side by side trials so I don't have hard data on why) and white plastic with final planting (when transplanting into plastic mulch in July we generally use white plastic because soil temps and air temps are so high that we are looking for anything to alleviate transplant shock and reduce water needs of crop). We try to lay plastic mulch a week or so ahead of time to get a cultivation of plastic edges in before transplanting.	We lay green plastic mulch (cucurbits grow faster on green) with a mulch layer. Since we cover melon with floating row cover, this is used for weed suppression and moisture retention.
Additional Notes	We found that winter killed oats that we cover in landscape fabric makes it so we don't even need much bed prep. The freeze/thaw action of winter works the soil enough that we just use trowels to transplant and the soil is just lovely.	We generally leave two empty beds on either side of a melon planting. These help with gathering melons and spraying when plants vine out.	

Planting

Bed Width	32"	72"	30" tops on plastic
Plant Spacing	1 bed/row; 24-30" between plants	14"	single row, 14" - 15" spacing
Transplant Process	Since our bed prep takes care of a lot of details for us, we just gently pull out plugs, use a trowel to open a hole, gently place transplant in, cover root ball. We like to have the irrigation on and running for about an hour before planting. We also spray trays with Surround before transplant to help with transplant shock and pests. Unlike other transplanted crops, we do not have one person go ahead popping out plugs and laying them out. Each person takes a flat and pulls their own plugs so the roots are disturbed as little as possible.	Waterwheel transplanter. Yellow doll can be very fragile and requires a more skilled operator doing the transplanting. The only issue that we run into with the waterwheel is if the soil is very dry then we have to make sure to slow the tractor enough to thoroughly wet soil before transplanting and run drip tape immediately after transplanting to ensure proper moisture level in soil.	All transplanting is done with a waterwheel transplanter. One person for cantaloupe and seeded melons and two people for seedless melons as one does the pollinator while the other does the seedless melons.
Amendments at Transplanting	Not yet. We just try to not overwater.		Tank mix of 2ozs/gal. Dramm Drammatic One in the transplant water
Water at Transplant	Drip tape is on and running before planting. Keep it on until each hole is well-watered which can depend on if we have irrigation on for other fields. But usually at least 4 hours, likely 8.	If it is really hot and dry we'll run irrigation as soon after planting as possible.	

Row Cover	We use floating row cover over wire hoops. Keep them covered until flower set. Laid out by hand. secured with bags. Helps defend against pests and adds warmth.	Ag19 equivalent row cover directly over plants secured with dirt bags immediately after planting. This is left in place for 2-3 weeks and then removed	Woven fabric weed mat is laid between rows within a few days and then rows are hooped and covered with 1oz floating row cover.
-----------	---	--	--

Crop Maintenance

Irrigation	If rain is less than 1" per week, we run drip for about 4 hours 1-2 times per week as needed.	Highly dependent on temperature and rainfall conditions. Very hot and dry we'll run drip for 12 hours every 5 or so days. Other years we've grown crops with very little irrigation.	Drip irrigation once a week when needed to one inch/week.
Changes to Irrigation	We try to keep them well watered through fruit set and then ease off while fruit ripens so they don't split.	During the establishment and vegetative growth early in plant life cycle we keep everything well watered.	After fruit set, about two weeks before harvest we cut water back to half.
Weed Control	In the past we have tried to no avail! Vining crops cultivated by hand are so hard. But with black landscape fabric, all we need to weed are the holes 2-3 times by hand. Sometimes we need to weed where the fabric pulls apart if it isn't laid well enough, but it generally takes ~15 minutes/row.	We try to lay plastic a week or two before planting so that we can cultivate at least once prior to planting. When we remove row cover we do a complete cultivation. 95% tractor cultivation with remaining 5% cleaned up with hoes/hand-weeding.	Pull floating row cover if needed to weed transplant holes. One time event, some years isn't required. Otherwise weed mat takes care of the rest of the area.
Insect Pests	cucumber beetles and squash bugs are main culprits. We keep them row covered for as long as possible, sometimes coat them in clay, sometimes get around to spraying pyganic, but usually we just cross our fingers that the plants can defend themselves well enough to get through harvest.	cucumber beetles - exclusion with row cover, monitoring and spraying (pyganic, neemix, entrust in rotation) early in infestation with varying frequency (3-10 days depending on beetle population)	N/A
Diseases	None so far that have affected harvest. The vines get powdery mildew towards the end of their cycle.	Downy mildew on cantaloupe and wilt in watermelons. We have found managing disease through fertility and adequate water to keep crop growing quickly as the most effective means of managing disease.	Late crop powdery mildew. Keeping field clean of weeds for air circulation. Powdery Mildew on late planting. Spray Regalia/Badge X2 alternating Stargus/Actinovate AG EVERY 7-10 days with foliar spray of Drammatic K

Harvest and Yields

Harvest Window	~5-6 weeks, peak for 2-3 weeks. Usually Mid-August-September	Goddess matures ~2 weeks before Yellow Doll. In general both varieties mature over a 5-10 day window.	Mid July thru mid September
----------------	--	---	-----------------------------

Harvest Procedure	<p>We usually harvest cucurbits later in the day because we harvest more tender things in the morning; melons are usually done at the very end of the day. If there is going to be a big rain, we harvest hard.</p> <p>We harvest muskmelons at full slip, so no tool necessary, just crates. Arava turns yellow and has some light netting to clue us in to their harvest windows. But we just walk down the row picking up fruits that look ripe and if they slip right off the stem, then we makes piles and collect the piles. Watermelons we use a knife to cute the stem from the vine. We wait for a nice, obvious yellow spot to develop and we knock on the fruits to make sure they sound hollow. We do look for dried tendrils although I have read that that makes no difference. We harvest in to piles and pick up with crates.</p>	<p>Cantaloupe: every other day with light tug (this can vary depending on weather and field conditions), place in piles, gather into rpcs or bulk bins (melons are either placed directly in bins or on harvest conveyor and then into bins on a trailer)</p>	<p>Once plants have dried, late morning/early afternoon, we go thru and pick and pile (usually two people). Then we come back thru with tractor/trailer and pick them up (usually five people).</p>
Cleaning	<p>Since we grow on landscape fabric, fruits are usually pretty clean. Most fruit doesn't get cleaned. If a few are dirty, we will toss them in a dunk tank and spray them off.</p>	<p>none generally, but if melons are really dirty we'll run them though the rinse conveyor</p>	<p>Rinse conveyor, sort and bin or pack depending on orders.</p>
Packing	<p>A super not professional system of piling into the truck bed then bringing them to our walk in where we use a steel stock tank like big farms would use a pallet bin. Just unload everything by hand and back out for CSA. We call ourselves "loader, unloader, owners".</p>	<p>CSA: melons are removed directly from rpcs/bulk bins and placed into CSA boxes. Market: melons are sorted into rpcs and marketed in rpcs at market Wholesale (this is not a major source of sales for us as these mostly go to 2-3 other farms who use these for their CSAs): melons are sorted into waxed boxes/rpcs</p>	<p>See above.</p>
Storage	<p>Stock tank in the walk in cooler. We usually have a divider up mid-summer so that one side is slightly warmer, ~40 degrees. We only store melons for ~1 week because we don't grow that many and we primarily grow them for our CSA which happens Tuesday-Thursday. A few lucky market customers get them and that's it!</p>	<p>Melons are stored in Coolbot-cooled insulated semi-trailer. Temps are in lower 40s as cooler stores a mixture of crops. Cantaloupes store ~1 week and Watermelons store ~2 plus weeks</p>	<p>Cantaloupe = Stored in pallet bins @ 36-38F. Ideally we want to ship within 24-48 hours. Can go up to five days if timing isn't on schedule. After that we use them for processing. Watermelon = Stored in pallet bins @ 45-48F. Ship within 7-10 days if not sooner. Used in processing for up to a month.</p>

Yield	~2000-3000#/yr maybe? Likely ~5#/row foot	We track melons per piece, and we generally get 1.5 marketable melons/bed foot with similar yields of both Goddess and Yellow Doll.	Cantaloupe = 3#-5#/ bed foot. Watermelon = 2.5#-4.5#/bed foot.
Additional Notes	Melons aren't a big money maker for us, but we tried not growing them for a year and missed them dearly. Nothing makes me feel richer than gorging on whatever type of melon I want for a month.	Proper irrigation in order to keep plants growing quickly is essential to yields.	

Equipment

General	BCS - ~\$5000 farm truck - \$6000 our bodies - priceless walk in cooler - \$1000 coolbot - \$300 stock tank - \$50	We don't have any equipment used only on melons, and at the same time growing, harvesting and moving melons around uses on some level most of the equipment that we use generally for our farm. We have also owned most of this equipment for a number of years so the prices we paid are no longer really accurate. I'm willing to go into individual costs, etc. as people are interested.	tractor, tillage equipment, mulch layer, sprayer, winder, mulch puller
Biggest Impact	Our bodies I guess? We just don't really use that much equipment.	Fertility and irrigation have are the biggest drivers of yield which in turn will increase profitability.	Mulch layer, (improving soil temp, holding moisture, increasing growth rate and reducing weed competition all make the use of mulch important to a successful crop).

Marketing

Markets	CSA, farmers market	CSA, farmers market, to other CSA farms/farm market stands	farmers market, on-site farm stand, direct to grocery, direct to restaurant
CSA	We do market choice, so folks can choose to take a melon, or 2, if they want each week for however long we have melons. I'd say on average it's 2 watermelons and 2 muskmelons per share.	We aim for 8 weeks of melons with a mix of melons going to even and odd weeks (we have a good number of every other week shares)	N/A
Farmers Market	We do \$1/#	Generally, \$4/cantaloupe and \$3-5/watermelon depending on size	Cantaloupe = \$1.00 to \$1.25/lb. Watermelon \$3.00 to \$10.00
Direct to Grocery	N/A		Cantaloupe = .75 - .90/lb.
Direct to Restaurant	N/A		See above.
Other	N/A	\$2-3/piece depending on size, quantity ordered, etc.	N/A

