### Storage Onion Production

#### Task

<table>
<thead>
<tr>
<th>Storage Onion Production, Practical Farmers of Iowa Annual Conference, 2019</th>
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</thead>
<tbody>
<tr>
<td>Featherstone Farm, Rushford, MN</td>
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</table>

#### Harvest and Yield

- **Harvest Window?**
  - We start harvesting onions with fresh-market bunches for CSA in late June. We continue with these bunches every 2-3 weeks through the end of July, when we bring in the rest of the onions to cure and store. After their tops bend and before the August sun hits them. So between July 15 and Aug 1, depending on the year.

- **Harvest Procedure?**
  - We hand-pull out of the ground (or harvest knife if needed), place gently in crates, take crates to greenhouse on wagon, gator or pickup bed. Lay by hand (chredder or prado fork if needed), place gently in a bulk bin for storage in our cooler. After their tops bend and before the August sun hits them. So between July 15 and Aug 1, depending on the year.

- **Yields (per area, per bulb)?**

#### Marketing

- **Markets?**
  - CSA only for onions (roughly 1/3 of our income is from CSA and 2/3 from wholesale)
  - Boxed: We sort and bag in predetermined weights from 0.5 to 1.5 lbs in a paper lunch sack. In the summer we bag them the day of delivery. In the fall when it’s cooler we can pack 1 or 2 days ahead.
  - We sort onion leaves and put in a drying room, then in 3-4 days we move them to the greenhouse. Leave them in the greenhouse for a week to a week and a half before leaving the greenhouse. We harvest onions only on the ground if they are ready for harvest. For example, then on the ground, depending on the year. We sort onion leaves and put in a drying room, then in 3-4 days we move them to the greenhouse. Leave them in the greenhouse for a week to a week and a half before leaving the greenhouse. We harvest onions only on the ground if they are ready for harvest. For example, then on the ground, depending on the year. We sort onion leaves and put in a drying room, then in 3-4 days we move them to the greenhouse. Leave them in the greenhouse for a week to a week and a half before leaving the greenhouse. We harvest onions only on the ground if they are ready for harvest. For example, then on the ground, depending on the year.

#### Other Prices?

- **CSA Frequency?**
  - Once a week from 6/21-10/21, then every other week 10/28-11/12.
  - CSA only for onions (roughly 1/3 of our income is from CSA and 2/3 from wholesale)

- **Farmers Market Price?**
  - NA

- **Direct to Grocery Price?**
  - NA

- **Retail Price?**
  - NA

- **Unknown**
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<td>Other Notes on Field Prep?</td>
<td>Strive to make these beds as early as we can get into the fields. Some years we can’t hit our 4/20 planting date since it has been too cold or too wet.</td>
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<tr>
<td>Bed Width?</td>
<td>We shoot for 5.75-ft spacing between bed centers. Not on bed system, on row system with 36-in. row spacing.</td>
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<tr>
<td>Plant Spacing?</td>
<td>6 in. between plugs, 2 rows per bed. One fist width (3-4 inches) for all storage and summer onions. Green onions are planted as close together as possible.</td>
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<td>Planting depth?</td>
<td>We’re not terribly finicky about this. Since we often are pushing it to get the beds made for this crop, the soil texture is often rough and it is difficult to get perfect depth or planting conditions. As deep as your thumb will get them.</td>
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<td>Transplanting Process?</td>
<td>We tow the trailer of transplants to the field. We transplant using a tractor mounted waterwheel transplanter. Depending on conditions, we may opt to have a walker follow the planters. We hold bundles of plants in non-dominant hand, bend at waist and plant one at a time with dominant hand. The speed of planting is determined by how fast you transfer plants from bundle to planting hand, and stance. We do not sit, we might crouch or crawl on our hands and knees but never sit. Too much momentum is lost.</td>
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<td>Fertility at Planting?</td>
<td>We add 2.5 gallons of fish hydrolysate to each 160 gallon load of water.</td>
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<td>Irrigation (frequency, system)?</td>
<td>Drip irrigation, t-tape. Enough to equal roughly 1.5 in. of rainfall each week. Hand-laid drip irrigation when needed. We did not use to need this but around the number of wet spells to around 3-4 days is ideal. Every week.</td>
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<td>Weeding (frequency, tools/implements)?</td>
<td>We cultivate bed edges, and with that come all we need to do. We cultivate bed edges, and with that come all we need to do. We cultivate bed edges, and with that come all we need to do. We cultivate bed edges, and with that come all we need to do. We cultivate bed edges, and with that come all we need to do. We cultivate bed edges, and with that come all we need to do. We cultivate bed edges, and with that come all we need to do. We cultivate bed edges, and with that come all we need to do. We cultivate bed edges, and with that come all we need to do.</td>
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<td>Disease Issues and Management?</td>
<td>Bacterial soft rot is the worst problem for us and because of this we are considering doing away with storage onions altogether.</td>
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<td>Pest and Pesticide Management?</td>
<td>Thrips are the only pest we have noticed. If thrips are bad, we spray Entrust 1-2 times. Once every three years or so, if thrips are bad, we spray Entrust.</td>
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**Storage Onion Production, Practical Farmers of Iowa Annual Conference, 2019**

**Task**
- Featherstone Farm, Rushford, MN
- Wildwoods Farm, Iowa City

**Propagation**

- Varieties used?
  - 50/50 split of Candy, Red Long of Tropea (probably switching to Ailsa Craig and Cabernet for 2019 after trialing these varieties in 2018)

- Storage onions: Copra (yellow), Red Zeppelin (red), Stirling (white); Summer onions: Ailsa Craig (sweet), Candy, Red River, Superstar; Green Onions (Super Star)

- Direct seed or transplant?
  - Transplant

- Transplant - purchased from Dixondale Onions in Texas. 20 cases. 30 bundles per case. 60-100 onions per bundle.

- Supersede: green onions (super star) when: Summer onions: Ailsa Craig (sweet), Candy, Red River, Superstar Onions: Copra (yellow), Red Zeppelin (red), Stirling

- Virus disease: 50/50 split of Candy, Red Long of Tropea, Red River, Superstar.

**Field Prep**

- Seeded in greenhouse Mar. 2, transplanted to field Apr. 20
- One week prior to transplant, we move trays out to hayrack wagons with wooden decks. Each wagon fits about 80-90 trays.

- When nights are cold or thunderstorms threaten, we roll these wagons into an empty tunnel. Transplant crews take these wagons directly to the field.

**Soil Amendments?**

- Our plastic mulch implement has a fertility hopper that dispenses a custom dry fertilizer blend (1-2-6) into all our beds. We apply 300 lbs per acre. We use organic standards approved, composted turkey manure.

**Bed Prep and Shaping?**

- Chisel plow > Disc 2000 series mulch layer / 4-ft embossed black plastic mulch that we source from Midwest BioAg.

**Seeding Schedule, dates, successions?**

- Seeded in greenhouse Mar. 2, transplanted to field Apr. 20
- One succession, ideally transplant first week of April; last week of April in 2018

**Prepare a field, crops?**

- No set rotation

**Precrop Cover crops?**

- Either bare ground or winter-killed cover, such as oats and peas

**Other Notes on Propagation?**

- Variable April weather makes it difficult to select a shipping date. It is possible to hold onions starts for a few weeks, but a later planting date requires watering at transplant, more weeding, and provides a shorter season, meaning smaller onions.

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