

Branch Creek Farm, Perkasi PA**Disease Management**

Mark and Judy Dornstreich have been farming for over 30 years in beautiful Bucks County, PA. They produce baby greens, specialty vegetables and edible flowers year-round in 3 greenhouses. Come summer, they shift their attention out to the field where they grow unique vegetable varieties on about 5 acres. They provide Philadelphia and New York City restaurants with only the highest quality, mouth-watering produce.

Greenhouses

Systems ensure employees consistently practice good sanitation. For instance, employees mix soil into clean buckets, which are a different color than the buckets used for removing compost/plant debris. From there, the soil goes into sanitized trays or thoroughly cleaned permanent wooden beds for seeding. If there was a disease in either structure, it gets taken out of the greenhouse and sanitized before being brought back into the house. Color-coded sticks are placed in the beds so employees know what measures they need to take when cleaning out an old bed.

**Mini-Crop Rotations**

Every time a greenhouse bed is seeded with a new crop, a corresponding tag gets placed in the bed. Once the old crop has been cleaned out of the beds and the beds have been re-filled with the new propagation mixture, the next crop can be planted. Before seeding the new crop, employees check to see what the last crop was. They avoid seeding similar families simultaneously. They don't seed a bed of chard where there just was one. Instead, they seed something from a different plant family, like a mustard or a salad green. "There are certain crops we consider to be the 'canary in the coal mine'" says Mark. Cress is one of those plants. It begins to yellow and by the next day the entire bed is dead. That means there is a disease in the box it's planted in and that bed needs to be taken out of production for awhile.

**Sanitation**

Frequently weeding the floors of the greenhouses not only prevents new weeds, but also means no hiding spots for disease/virus vectoring pests, such as aphids. The majority of the beds in the greenhouses can be moved by two people. Workers will periodically shift the beds one by one down the benches to clean in between the beds. This gets rid of various debris, insects, fungi, and dirt which could potentially cause issues if left over time.





Air circulation

Mark's philosophy when it comes to temperature and humidity levels in the greenhouses is "if I'm uncomfortable- so are the plants".

Louvre vents are in place in both ends of the greenhouses to allow fresh air into the house when the temperature rises. Also, fans are in place throughout the house to push the air from one end to the other. This cuts down on humidity and also chances of a fungal disease taking hold. Another way to increase air circulation between individual plants is to avoid seeding them too densely. This is a challenge for micro-greens growers because the spacing has to be close in order for the individual bed/crop to turn a profit.

Watering

"The person holding the watering wand is the same person holding your checkbook" laughs Mark. Watering is the most important skill a greenhouse employee can have. Under or over-watering can have devastating effects on a crop. Under-watering results in stressed/stunted growth while overwatering creates the perfect environment for disease. The beds are hand watered in the morning and mid-afternoon. This gives the foliage a chance to dry before it gets too cool. It's done by hand so that beds can be watered individually and only when necessary. The biggest challenge Branch Creek faces is that there are too many employees who take the watering upon themselves when it's not necessarily needed. "You can't tell people not to water when they think something looks dry- you'd have an even bigger problem on your hands then."

In the field

Mark doesn't face too many disease issues out in the field. Most of the problems mentioned above are taken care of naturally by environmental conditions. "I think of wind as a form of plant exercise" says Mark. It strengthens them and takes care of the ventilation issue. As far as watering out in the field goes, Mark recommends that you aim for watering the roots/soil, avoid getting the foliage wet to prevent the spread of disease.

Crop Rotation

The field crops, mainly tomatoes, peppers and eggplant, are rotated every season. Mark prefers to grow tomatoes in the hoopouses because it keeps the fruit clean and the plants healthy. Rotating tomatoes between the houses gets harder every year, because it seems that almost every house had tomatoes in it last year. His solution-build another hoopouse!

Farm Profiles are designed to give new producers ideas and advice from experienced producers. Individual products are mentioned as examples not as an endorsement. Prepared by Aston Ward, Penn State Extension. Photos taken by Aston Ward, courtesy of Branch Creek Farm. Last updated May 2011.