

# Cultural Check List

...from Ron Adams

I want to give you some check lists that you can do before your plants arrive, when they arrive, and after planting to help you have a successful growing season.

## • Things to keep in mind before the plants arrive:

Have materials ready for planting when the plants arrive. Any delays causing you to hold the plants can decrease their vigor and ability to establish.

Have the greenhouse checked to assure that the heating and ventilating systems are properly functioning. Have there been any changes in or around the greenhouses? New parking lot lights that stay on at night can affect photo periods.

Test the water and soil and make sure that the fertilizer will balance the plants nutritional needs.

Have sufficient labor to handle the crops when they arrive.

Have a receiving area for the plants that will allow you to unpack them and inspect them on arrival. This is commonly a headhouse. It should provide sufficient conditions so as not to cause plant stress such as too hot or too bright. I always like to see warm conditions 65-70 degrees F. with about 30-35% shade. Water the plants if dry. Vernalized perennials can be kept at 38-40 degrees F. prior to planting.

Have a place to keep the shipping documents, to make notes on plant conditions when the plants arrive.

## • Things to do when plants arrive:

Unpack and inspect all of the plants received.

Place plants in the receiving area after unpacking prior to planting.

Make notes of any visible problems such as damaged leaves, cold/frost injury, off color leaves, and any disease. Look especially at the growing points. If the growing points are not damaged most often the plants can establish and develop normally from shipping damages. Check the roots for any damage with cold injury. Look for hitchhiking insects.

Plant plugs and liners within 24 hours. Often it is best to allow the plugs and liners to recover from shipping overnight. If the plants arrive early in the day then they can be transplanted the same day. **Do not plant dry plugs or liners.** Water them first. Planting dry plugs slows root development. Normally you should see the roots establish in 5-7 days after transplanting.

Make sure that the transplanted plugs and liners are watered in immediately after transplanting to settle the soil and establish contact with the root-ball.

Do not plant the plugs or liners too deep since most plants should not have their crowns planted deeper than the original plug or liner. Marigolds and tomatoes are typically the exception.

Salvia needs to be established under at least 35% shade for the first 5-7 days after transplanting to prevent tip abortion.

Tuberous begonias need at least a 14 hour day length to prevent tubers from forming, which would slow down development.



*Ron Adams has joined our team to help you with cultural advice. With more than 30 years in the industry and lots of hands-on experience, Ron adds a new level to our "Reliable Service."*

*Help avoid costly losses by tapping into his expert advice. If you would like to speak with him regarding any products you have purchased from Jolly Farmer, please give your rep a call. It is our hope that through this service you will become more successful.*

### • Things to do after transplanting the plugs and liners:

Place plants into the proper environment. Remember, if you only have one growing area, try to match conditions within the area such as hot, cold, and light or shade. Monitor temperatures. You should have 65-68° F soil temperatures until the newly transplanted seedlings/liners start to develop.

Check for root development. New roots should establish 5-7 days after transplanting. If the roots are not taking off, check the growing conditions. If the roots are not developing and showing a dark/black color then a fungicide drench might be required.

You should not have to fertilize most crops until they have started to establish.

Establish a scouting program to routinely monitor the crops. This will allow you to take corrective action immediately should a problem occur. Noticing a problem but waiting to act can decrease your ability to correct the problem and save your crop. A good example is the use of yellow sticky traps to identify pest problems when they first arrive. Yellow sticky traps are good for identifying whitefly, winged aphids, leafminer adults, thrips, fungus gnats, and moths. They will not show spider mites, so you have to inspect the plant leaves.

Scout for stressed plants (wilting on bright days after watering), off color foliage, poor root development, brown or black roots, stems and leaf spots, flowers not forming on schedule.

Watering methods should minimize the amount of leaf wetness on the plants after watering. The plant foliage should dry within 2-3 hours after watering. Watering late in the day can keep the leaves wet for too long allowing botrytis and mildews to establish. High humidity in the greenhouse at the end of the day allows moisture to form on the leaves allowing disease to establish. Ventilate and heat to lower the relative humidity at the end of the day.

### • How do you diagnose a plant problem?

You need a good visual image of how the plant looks compared to how a healthy plant at the same stage of development should look. How is it different from a healthy plant in the same area? If the whole area is affected, how should they look?

What are the symptoms; such as leaf or stem spots, different color, wilting leaves, poor or dead roots? Look at the plant roots first to determine if they are developing normally. After checking the roots, then look at the stems and leaves. The growing points are critical so try to determine if they are affected. If a problem is observed then look at the plants around them to see if other plants are showing the same symptoms.

After checking the plants, look at the growing environment. Is there a physical problem, such as sitting too close to a heater, or too close to an open vent. I have seen plants show cold injury coming from a door that was not tightly sealed. Are the heaters working properly? Is there a leak in the irrigation system keeping the plants too wet? Is there too much shade on something overhead?

After checking the greenhouse environment conditions go back to the plant to see if there is a cultural problem. Are the plants planted too deep, or is the soil too compact and not draining properly? Have they been fertilized when too dry? Is it too much light, or not a long enough day length? Is there poor air movement which would slow drying and keep the plants too wet? Is your fertilizer rate what it should be? A poorly working fertilizer injector typically underfeeds the calculated rate.

If you observe a growing problem, call as soon as it is noticed to minimize the problem and find corrective action. We want to help you succeed.

### Other ideas:

Educate yourself. Resources available would include books from us as well as the Ball Publishing library. Seminars at OFA and other trade shows are a great learning opportunity. This fall, there is a Bedding Plant Conference scheduled. Growing quality plants takes a lot of good hard work, but remember - success doesn't cost, it pays!

*Have a great year!*

**Please note:** Visit our web site for cultural tips and container ideas.