Session 4 – Locally Yours Farm Transplant Worksheet Key

(Directions to Facilitators are in italics, Directions to participants are in bold)

Locally Yours Farm wants to grow two 5 x 20 ft (100 ft^2) beds of summer squash this year for an early market. In their biointensive system, the squash spacing is 12 inches triangular for 33 plants per bed.

They have chosen Gentry, a good variety for the South. The germination rate on the packet is 80%. Each packet has 30 seeds.

Assume they need to grow 10% to 20% more plants than they need in order to select the best for transplanting. The germination rate of the seed bought this year is high so this will account for that also. One seed should be placed in each tray plug.

How many transplants should they start? How many seeds do they need? How many seed packets do they need?

1. **Number of transplants desired** ___*66*____ = __*33*___ **number of plants/bed x** ___*2*__ **beds**

Ask them to pull out the seed packets they brought in and look for the germination rate. What are the range of germination rates listed? In general, if the seed packet lists the germination rate use this to calculate how much seed to sow. With 80% germination you should sow a minimum of 83 seeds to get the desired 66 plants.

2. **Number of seeds corrected by germination rate** _*83*___ = *66 / (80% / 100) or 66/0.8*

With transplants, it is a good idea to sow more seed than needed, to be able to choose the healthiest plants. It is common to plant 10-20% more than the minimum. Don't over seed because this is wasteful and seed is costly. Each cell should be sown with a single seed.

3. **Number of transplant cells to be seeded** __*100*_____ = ___*17*___ **number of extra transplants based on germination rate x (**__*20*__ **percent extra/ 100) +** ___*83*___ **number transplants based on germination rate**

4. **Number seeds needed** ___*100*____ = **number of cells to be seeded**

There are 30 seeds to a packet, so in this case, they would need to buy 4 packets.

5. **Number of seed packets** __*4*____ = __*100*__ **/** *30* **seeds per packet**

Topics for discussion:

1. *What type of crops do you direct seed? Which do you transplant?*
    a. *Lots of different answers here, we are going to focus on squash, tomatoes, and spinach/beets/carrots.*
        i. *Squash-You can either transplant or direct seed squash. What sort of circumstances may affect your decision? Weather-if drought or very rainy, may be best to grow transplants and plant into the ground when plants are older and stronger. Space-if you don't have room in a greenhouse then direct seeding is a better option.*
        ii. *Tomatoes-Tomatoes are usually transplanted*
        iii. *Spinach/beets/carrots-These are normally direct seeded. They don't like having their roots disturbed once they are planted.*
2. *What would be good tools for a small farm like Locally Yours to use for seeding? What about a medium scale farm, Gittin' There Farms?*
    a. *Small farm-push seeder or hand seeding*
    b. *Medium farm-Single or double row planter*