



Vegetable Transplant Production (continued)

Pest Management

- Warm, moist environments enhance plant diseases; low relative humidity reduces disease
- Clean seeds, sterile planting mix, sterile trays, good greenhouse or field nursery sanitation are essential for healthy transplants
- Irrigate and fertigate only when plant leaves can dry quickly
- Do not allow smoking in greenhouses or allow handling of plants after smoking
- Follow IPM practices to minimize infestation of insects



Produce healthy disease-free transplants.

Brushing Transplants

High densities of plants in the greenhouse or field nursery can cause elongation of plant stems. Such tall, weak plants are more susceptible to breakage during transport and transplanting.

- Brushing – *mechanical stimulation of seedlings* – reduces stem elongation
- Ten gentle brush strokes each day with a long thin clean wooden stick, beginning at 6 cm height can reduce transplant height
- Brushing is recommended for tomato, pepper, eggplant
- Brushing is **not** recommended for cucurbits, which are more fragile

Hardening Transplants

Hardening is preconditioning transplants to tolerate field stress

- Hardening is accomplished by exposing plants to lower or higher temperatures and lower moisture
- Hardening normally requires 5-10 days?
- Hardening reduces plant succulence (moisture content), closes plant stomates, lowers plant transpiration rate, and changes the plant hormone balance
- Always thoroughly water plants before transplanting
- Trimming of leaves and/or roots of transplants should only be done if planting is delayed and the plants become too big, or if mechanical planting requires a uniform height

Planting and Post Transplant Management

- Irrigate immediately after transplanting (unless water is placed in each transplant hole during planting).
- Make holes for transplants sufficiently large to minimize root bending
- Place plants to depth in the soil of the cotyledons or first true leaf
- Starter (low rates of) N-P-K fertilizer enhance early growth. High fertilizer rates injure roots and cause water stress.

Prepared by Ron Voss and Muhammad Marrush. October, 2007

References Wayne Schrader. 2000. Using Transplants in Vegetable Production. Publication 8013. Univ. of California DANR. 6 pp. <http://anrcatalog.ucdavis.edu/pdf/8013.pdf> ; Donald Maynard and George Hochmuth. 2007. Knott's Handbook for Vegetable Growers, 5th ed. John Wiley & Sons, Inc. 621 pp. ;G. Boyhan et al. 2000. Greenhouse Vegetable Production. Univ. of Georgia Bulletin 1182.; G. Hochmuth et al. 2001. Florida Greenhouse Vegetable Production Handbook, vols 1,2,3. Univ. of Fla. Handbook SP46. <http://edis.ifas.ufl.edu/CV263>

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