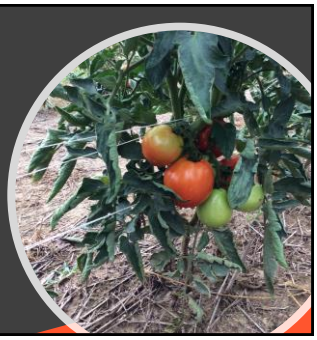
Tomato Field Production in Southern Illinois

Southern Illinois Fruit and Vegetable School

Illinois Extension



Site Selection and Fertility

- Tomatoes prefer well drained medium textured soils
- Choose an area with good sun exposure
- Rotate crops; avoid planting tomatoes after other solanaceous crops like peppers, eggplants, or potatoes
- Always get a soil test

FERTILIZER: *Tomatoes*

The following fertilizer rates are to be used only as guidelines. Research at the University of Kentucky and at the University of Tennessee indicates that there is no yield increase from using more than 60 lb/A K_2O or 60 lb/A of P_2O_5 when soil test P and K levels are high.

Soil Test Results (lb/A)		Fertilizer Needed (lb/A)
Phosphorus		**Phosphate (P_2O_5)**
Low	<31	181-240
Medium	31-60	61-180
High	61-80	1-60
Very High	>80	0
Potassium		**Potash (K_2O)**
Low	<201	121-250
Medium	201-300	61-120
High	301-450	1-60
Very High	>450	0
Basal nitrogen where tomatoes:		**N**
1. follow grass-legume or legume sod		30
2. follow grass sod		50
3. are grown on continually cropped land		60

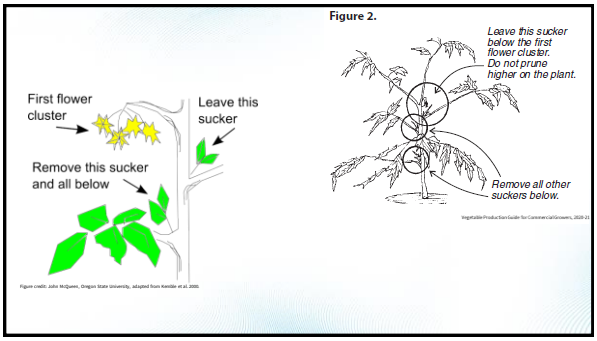
Supplemental applications: On bare ground plantings, apply an additional 30 lb of nitrogen/A as a sidedressing when the first fruits are golf-ball size. A second sidedress application of 30 lb N may also be desirable two or three weeks later, depending on the crop's growing condition. For plasticulture with drip on medium-textured soils, apply all recommended phosphorus and potassium requirements prior to laying plastic mulch. See "Fertigation" table for N application rates.

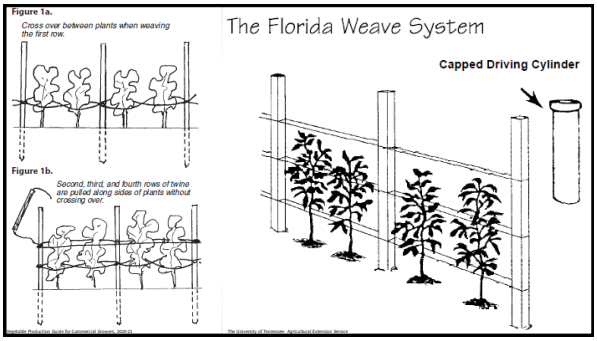
Transplants

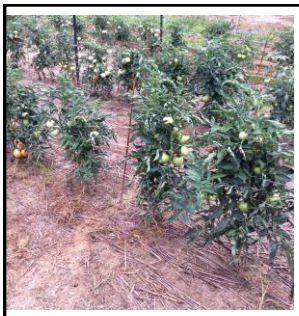
- Choose healthy disease-free plants
- Should be compact and not stretchy
- Allow transplants to harden off before transplanting
- If starting your own:
  - Use a trustworthy potting mix
  - Disease free seed
  - Clean cell trays or sanitize cell tray if you are reusing them
  - Provide good access to light

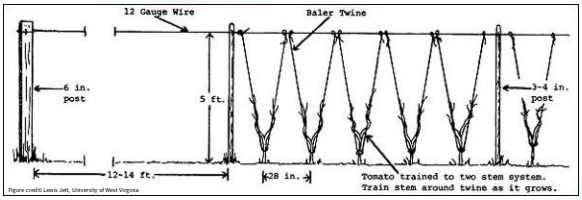
Pruning and Trellis systems

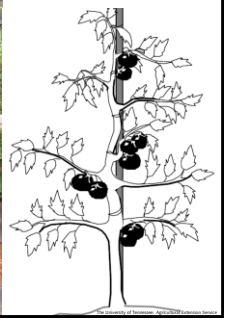
- Remove suckers when small if possible
- Use clean sharp pruners to remove larger suckers
- Prune before tying the first time
- Over pruning can stress plants and increase chances of sunburn
- Choose a trellis system that works best for your operation
- Consider: labor, time, budget, storage, space, and equipment that might be used in the field











Cultural Practices

- Minimal tillage/no-till
- Planting into a cover crop
- Conventional tillage
- Raised bed with plastic mulch

Consider:

- Location
  - access, slope, erosion issue
- Soil type
  - Heavy, drought prone, drainage issues
- Weed control methods
  - Terminating cover crops, organic or conventional production?
- Resource allocation
  - Money, labor, time

No-Till

Positives

- Useful in problem areas
- Less equipment
- Weather is less of a problem
- Plants can withstand drought conditions better
- Cleaner fruit

Negatives

- Weed control can be an issue
- Cooler soil temperatures
- Can't incorporate fertilizer into the soil
- Banded fertilizer may need to be watered in during dry conditions

Plastic Mulch

Positives

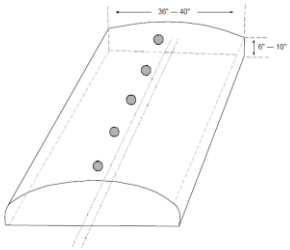
- Promotes heat capture and warms soil
- Weed control
- Provides an ideal growing system for roots
- Conserves soil moisture
- Reduces soil splash caused by rain or overhead irrigation
  - Cleaner fruit
  - Less disease

Negatives

- Requires specialized equipment
- Weather can delay bed preparation
- Plastic removal and disposal add an extra step
- Trickle irrigation is highly recommended
- May hide rodent issues

- Locate drip line before transplanting or driving trellising stakes

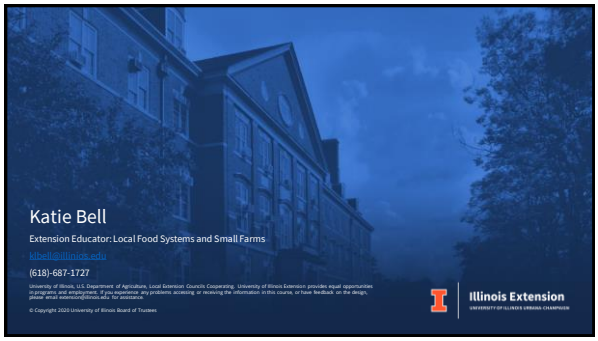
Schematic of Plastic on a Raised Bed with a Trickle Line under the Plastic



The University of Tennessee: Agricultural Extension Service

Resources

- Midwest Vegetable Production Guide for Commercial Growers
- Vegetable Production Guide for Commercial Growers
  - ID-36 put out by University of Kentucky Cooperative Extension Service
- Commercial Tomato Production
  - PB 737 put out by The University of Tennessee Agricultural Extension Service
- Commercial Tomato Production Handbook
  - B 1312-7 put out by University of Georgia Extension
- University of Illinois Extension Local Food Systems YouTube page
  - https://www.youtube.com/c/IllinoisLocalFoods/videos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