

Notes on Tillage & Seeding Equipment for Small Vegetable Farms

Biointensive Bed Culture

Beds are prepared by double digging and involve the use of spades, spading forks, and rakes. Broadforks are used primarily for renovation of beds prepared the previous year. Recommended reading: *How to Grow More Vegetables*, by John Jeavons

Conventional Tillage

Recommended reading: *Steel in the Field* (SARE publication), by Greg Bowman

Primary Tillage: Initial groundbreaking, usually accomplished with plows, disk plows, heavy disks, or chisel plows. Depending on crop residues and conditions, rotavators or powered spaders can be used for primary tillage.

Secondary Tillage: Follow-up tillage used to prepare a seedbed for planting. This usually involves some combination of rotavators/rototillers; disk, spring-tooth, spike-tooth, and/or wire-tooth harrows; field cultivators; and powered spaders.

Organic No-Till/Reduced Till

Deep Mulch Systems: Usually involve bringing in large amounts of mulch to smother weeds.

Recommended reading: books by Ruth Stout; *Machine-Free Vegetable Farming*, by Patrice Gros

Killed Mulch Systems: Involve growing dense cover crops that are mechanically killed to leave a weed-suppressive mulch. One approach involves mow-killing the cover crops; another involves the use of a roller-crimper.

Recommended reading: *Organic No-Till*, by Jeff Moyer, published by the Rodale Institute

Small-Scale Seeding Equipment

Dibbles & Warren hoes: very low-tech tools for planting

Precision seeders: Designed to place seed with very uniform spacing - usually designed with plates for varying sizes of seeds and seed spacings. Some designs have changeable sprockets to vary plant populations.

Seed drills: Mechanically "dribble" seed into the planting furrow. Plant population is usually controlled by changing the size of the opening that the seed falls or is pushed through.

Job planters/transplanters: hand-held units designed to plant a single seed or seedling