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No-till Vegetable Gardening

5 Key Principles:

- ❖ Zero-tillage – no cultivation of soils.
- ❖ Permanent growing beds and permanent pathways.
- ❖ Keep soils covered with mulches (crop residues, compost, straw, grass clippings, weeds, leaves) at all times.
- ❖ Maximize soil organic matter and maintain soil biological diversity
- ❖ Crop rotation.

How Do No-Till Systems Work?

- ❖ Design a lay-out that provides for permanent growing beds and pathways. Beds should be no more than 5 feet wide but can be any shape and length.
- ❖ Slash and leave existing vegetation on the ground. If the area is very weedy, place a layer of newspaper first.
- ❖ Add several inches of organic matter: composts, straw, leaves, grass clippings, and additional soil if available.
- ❖ Plant seedlings through the mulch so roots contact the soil, Move aside small areas of mulch when direct seeding small seeds.
- ❖ Plant cover crops (i.e. buckwheat, fava, rye) early or late in the season, or inter-plant with vegetable crops. Leave all crop residues and weeds on the beds. Add additional composts, leaves, etc. as needed.

Advantages of No-Till Gardening:

- ❖ Saves time and labour.
- ❖ No need for big tools.
- ❖ No fuel consumption.
- ❖ Reduces soil crusting.
- ❖ Reduces erosion (less run-off, blow-off).
- ❖ Nurtures soil micro-biology.
- ❖ Increases earthworm activity (and breakdown of organic matter, movement of organic matter down from surface, tunnels increase water infiltration, etc.).
- ❖ Reduces water evaporation and run-off.
- ❖ Soil holds more water (increases porosity, organic matter/humus content).
- ❖ Increases organic matter and soil fertility.
- ❖ Reduces oxidization of soil organic matter.
- ❖ Keeps carbon in the soil/reduces greenhouse gas emissions.
- ❖ Less compaction (from impact of rain drops, heavy machinery).
- ❖ Maintains soil "crumb structure".
- ❖ Prevents mixture of soil layers (litter, top soil and sub soils)
- ❖ Improved soil tilth.
- ❖ Reduces loss of nutrients from leeching and run-off.
- ❖ Creates wildlife habitat.
- ❖ Reduces weed seed germination.
- ❖ Earlier planting times creating a longer growing season (do not need to wait for the soil to dry in the spring before it can be worked).

For More Information:

www.no-dig-vegetablegarden.com

www.notill.org

www.certifiedorganic.bc.ca/rcbtoa/training/soil-article2.htm

The One Straw Revolution, Mansanobu Fukuoka, 1985