



Biointensive gardening

What is Biointensive Gardening?

The overall goal of biointensive gardening techniques is the miniaturization of food production in a closed system. This means that every backyard can become a farm in its own right.

How does Biointensive Gardening work?

Deep soil preparation – this develops good soil structure. Once this structure has been established it may be maintained for several years with 5cm deep surface cultivation until surface compaction once again makes it necessary to recondition the soil.

The use of Compost (humus) - for the soil fertility carbon and nutrients. Compost is also used to introduce microbial activity, through inoculation if depleted.

Close plant spacing - as in Nature.

Synergistic planting of crop combinations - so plants that are grown together enhance each other. An example is the 'three sisters' system of planting Corn, Beans and Pumpkin, where each element provides support for the other both above and below the ground.

Carbon-efficient crops. Approximately 60% of the growing area is planted in dual-purpose seed and grain crops. This produces large amounts of carbonaceous material for compost and significant amounts of dietary calories.

Calorie-efficient crops. Approximately 30% of the growing area is planted in special root crops, such as potatoes, leeks, garlic, parsnips and Jerusalem artichokes, which produce a large amount of calories for the diet per unit of area.

The use of open-pollinated seeds - to help preserve the genetic diversity of edible plants into the future.

Biointensive Gardening addresses the Permaculture Principals – Integrate rather than segregate, obtain a yield and produce no waste.

When biointensive gardening is used properly - with all of its components, so that all wastes are recycled, and enough organic matter is grown to ensure each yard can produce enough compost to create and maintain sustainable soil fertility. A self sustaining productive closed system can be achieved.

Why biointensive gardening?

The combination of these techniques makes it possible to greatly reduce resources compared to conventional gardening practices while greatly increasing soil fertility and productivity:

- A 67% - 88% reduction in water consumption per unit of production.
- A 50% reduction in the amount of purchased fertilizer in organic fertilizer form required per unit of production - reducing over time.
- A 94% to 99% reduction in the amount of energy used per unit of production.
- A 100% increase in soil fertility, while productivity increases and resource use decreases.
- A 200% - 400% increase in caloric production per unit area.

History

The biointensive method of gardening is a combination of two forms of horticulture practiced in Europe during the 1800's and 1900's.

French intensive techniques were developed in the 1700's and 1800's outside Paris. Crops grew in 50cm of horse manure, a medium that was readily available. The crops were grown so close that their leaves would touch. The close spacing provided a mini climate and living mulch that reduced weed growth and helped hold moisture in the soil. During the winter, glass jars, or

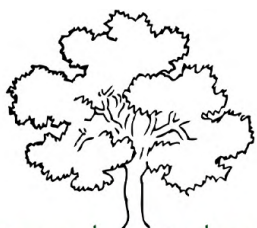
cloches, were placed over seedlings to give them an early start.

Biodynamics was developed by Rudolph Steiner in the early 1920's. His work started when fertilizers were first introduced onto farms. He noted that the new chemical fertilizers caused changes in the soil structure that killed beneficial microbioitic life and greatly reduced its ability to make nutrients already in the air and soil available to plants. Steiner noted that the number of crops affected by pest and disease problems increased while nutrient value and yields dropped. He brought back diets of organic fertilizers and stressed a holistic growing environment for plants. He also brought back the raised beds, the loose soil allowing air, moisture, warmth, nutrients and roots to properly penetrate.

These two methods were first combined by Englishman Alan Chadwick in the 1920's and were known as the biodynamic/French intensive method. In 1972 the name Biointensive was adopted by Ecology Action, a non-profit environmental research and educational organization that adopted responsibility for promoting the practice.

Reference: How to Grow More Vegetables, Eighth Edition. Author; Jeff Jeavons, Random House - 2013

Website: www.growbiointensive.org



Permaculture Canberra

For further information on this topic

Contact - Permaculture Canberra

Permaculture Canberra is the oldest permaculture group in the ACT. We provide permaculture and sustainable living courses across the ACT and South East NSW.

To contact Permaculture Canberra or find out more about courses and workshops visit our website at www.permaculturecanberra.com.au .