



All three photos above show compost tea treated plants on the right and control on the left. Although tuber number and size are similar- notice the larger root mass from the compost tea applications.



Comparison of Heliotrope clockwise from top left: Control, Eco-Tea™, Eco-Tea™+Regular, Regular



Figure 3: Eco-Tea™ flower bud



Figure 4: Regular fertilizer flower bud

Arrakis Bioreactor

Introducing the Arrakis Bioreactor. The Arrakis Bioreactor allows large commercial farmers, for the first time, to build high quality living microbial extracts on the farm in large enough volumes to keep up with any seeding, cultivating or spraying equipment. The Arrakis is user friendly and is the first of its kind.

Self-cleaning filtration system

Fully enclosed stainless steel, pressurized rotating drum assembly provides 300µm/50mesh screened Eco-Tea™ output that will not clog crop spraying equipment.

Filter drum assembly and plumbing system all located on pull out drawer for unobstructed servicing.

User friendly wheeled waist collection dump cart fits into frame

Can hold up to 5 cycles before reaching max capacity and needing to be emptied.

Fork lift pockets for easy lifting/dumping of waste residue.

Fast and efficient Pneumatic material conveying system

Innovative pneumatic conveying system allows the Eco-Tea™ inoculum and microbial food material to be easily conveyed into the top of the system.

High strength tubular steel frame which is forklift friendly

The Arrakis Bioreactor 11ft tall and occupies a floor area of 6ft. x 6ft.

The Arrakis can extract and aerate Eco-Tea™ and operate a 1000 gallon nurse tank all at the same time.

Pneumatic 12" Knife/Gate valve.

Power Requirements

120/240V single phase at 40 amp.

Ultra quiet Air compressor (70db) providing

Consistent aeration

Filter drum screen cleaning

Pneumatic knife valve actuation.

High throughput

40 GPM 50 mesh/300 µm Eco-Tea™ output.

Fast Cycle Time

950 gal. Eco-Tea™ output in a 90 minute cycle.

Soil Ecology and Productivity

There is an immense diversity of microbes in soil. Microbes in this context consist of bacteria, fungi, algae, protozoa, nematodes and other micro-invertebrates. Microbes help to create a balanced and robust environment for plant growth (productive soil). Productive soils require less nutrient and pesticide addition and most importantly less water.

Bacteria: Tens of thousands of species of bacteria inhabit just one-gram of productive soil. Bacteria are vital to the productivity of healthy soils. They aid in nutrient cycling, soil building, disease suppression, food sources for other microbes and degrading organic residues.

Fungi: Perhaps the least understood and most under appreciated members of the soil community. There are thousands of species in one gram of productive soils. Fungi are extremely important in binding and releasing P-complexes and Ca, creating stable and aerated soil aggregates. They are the "superhighways" of the soil.

Protozoa: The mineralizers. Protozoa consume extremely large numbers of bacteria releasing the vital nutrients contained within and excreting them.

Nematodes: The most numerous animal invertebrate on the planet and perhaps the most poorly understood. Most nematodes are beneficial – feeding on bacteria, fungi and other soil microbes. Some are pathogenic – feeding on plant roots (hence the bad reputation).

Micro-arthropods: Shredders and grinders mobilize organic matter into forms more usable by other microbes. Micro-arthropods are extremely important in nutrient cycling and disease prevention.

"Root growth is unparalleled. We have never seen roots this healthy, white and large"

- Riverway Golf Course, City of Burnaby, British Columbia