

Cultivit[®]

revolutionary soil technology

by VDL Cultivit

BETTER GROWTH, BETTER YIELD



Revolutionary soil technology

The need of increased productivity and cost reduction has never been that urgent as it is today. Costs of crop growing rise quickly while revenues don't rise at the same speed.

Here is the solution: the Cultivit concept

Growers of vegetables, fruits and flowers all over the world face severe crop damage caused by soil-borne nematodes. The Cultivit soil treatment concept has proven to increase crop yield, despite severe nematode infestations!

What a relief, knowing that traditional tools as chemical soil fumigants are restricted (metam sodium) or being banned (methyl bromide).

Cultivit: Yield improvement without chemicals. No restrictions anymore from trade partners and government.



Nematodes devastate roots of plants

Crop yields improve tremendously with Cultivit

In co-operation with specialised partners, the Dutch based VDL Groep developed the Cultivit concept: a rotary spader exposing the soil particles intensively to ultra-heated air.

Driven by solid crawler tracks, the self propelled and GPS-controlled Cultivit machine is your high tech partner in soil treatment.

The Cultivit concept was intensively tested by Wageningen Agricultural University from the Netherlands. The results are phenomenal: Despite heavy infestations with nematodes, crop yields improved tremendously.

The new winner: Cultivit



Revealing the concept

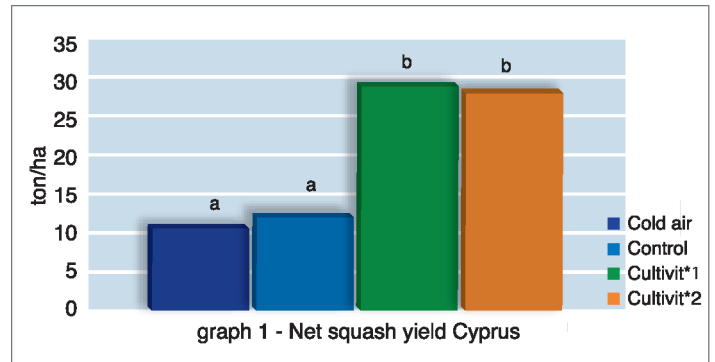
Better growth, better yield

The Cultivit concept has been tested by Applied Plant Research (PPO-AGV), part of Wageningen University from the Netherlands. For instance in squash crops, planted on heavily *Meloidogyne* infested Mediterranean soil, Cultivit enabled yield increases of 90% to 150% in comparison with untreated control fields. Traditional soil treatments with metam sodium (MS) were simply outpaced by Cultivit: Cultivit yielded 55% higher.

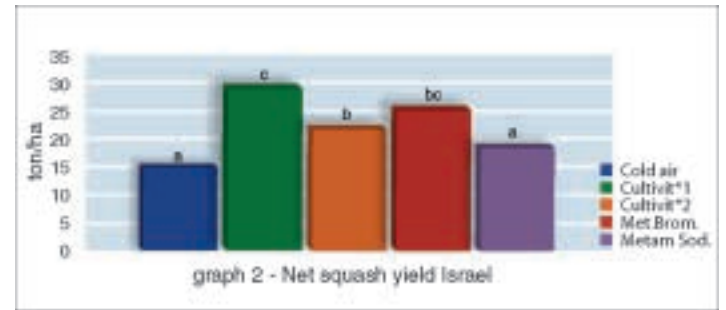
The new winner: Cultivit

Stronger crops and cleaner fields

- ▶ Plants develop a larger root system after a Cultivit treatment (see picture 3). This is a huge advantage in arid areas.
- ▶ Weed development is retarded (see picture 4) which leaves more water available to your crop and lowers the need of herbicides.



1) After a Cultivit treatment the squash yield in Cyprus (clay-loam soil) increased by 150% in comparison to untreated control fields



2) After a Cultivit treatment the squash yield in Israel (sandy soil) increased by 90% in comparison to untreated control fields



3) Larger and stronger root system after a Cultivit treatment



4) Weed development is retarded by the Cultivit concept

Cultivit, good news, just in time...

Crop growing increasingly complicated?

Many crops suffer from nematode infestations: Tomato, lettuce, peppers, cabbage, squash, lily and strawberry are just a few out of many crops threatened by soil borne nematodes. For instance Meloidogyne and Pratylenchus cause root lesions and reduce plant growth. At the same time chemical pest control becomes more complicated: Methyl bromide is near to a phase out and application of other chemicals becomes more and more restricted. Alternative soil treatments are in the spotlights again but have severe limitations:

- 1. Chemicals** Restricted by legislation, limited scope of application, how about residuals?
- 2. Inundation** Complicating crop management water waste and nutrient wash-out.
- 3. Solarisation** Climate dependent, labour intensive, varying effectiveness.
- 4. Soil steaming** Fuel costs and nutrient wash-out.
- 5. Catch crop and bio-fumigation** Possibly introducing other pests, varying effectiveness, complicating crop management.

Here is the answer:

CULTIVIT
improves yields
from nematode infested fields.

without:

- ▶ Toxic chemicals
- ▶ Waste of water
- ▶ Waste of energy
- ▶ Waste of labour

Treatment	Complexity	Speed	Water consumption	Toxicity	Energy cons.	Costs
Inundation	●●●●●	●	●●●●●	n.a.	●	●●●
Fumigation	●●	●●●●●	n.a.	●●●●●	●●	●●●
Solarisation	●●●●	●	n.a.	n.a.	●	●●●
Steaming	●●●●	●●	●●	n.a.	●●●●●	●●●●●
Catch crop	●●●●	●	n.a.	n.a.	●	●●●
CULTIVIT	●	●●●●●	n.a.	n.a.	●●●	●●

The advantages of the Cultivit concept

▶ Time

Soil is ready for planting immediately after the Cultivit treatment. Cultivit works for you day and night, self propelled and GPS guided.

▶ Energy

Cultivit requires just a fraction of the energy needed for soil steaming.

▶ Environment

No residues of toxic elements in your valuable soil.
No need for transporting and storing toxic chemicals.

▶ Human labour

Operating the Cultivit does not require specific certification or limited work schedules due to the absence of toxic elements.

Cultivit is a huge leap ahead in terms of ecology and society:

- ▶ Cultivit is free from toxic chemicals.
- ▶ Very low in energy consumption.
- ▶ Increased yield, improving your financial returns.
- ▶ Increased yield, a necessity to feed the growing world population (up by 70 million annually).

The Cultivit concept helps you better utilising your fields



Globally applicable

Growers

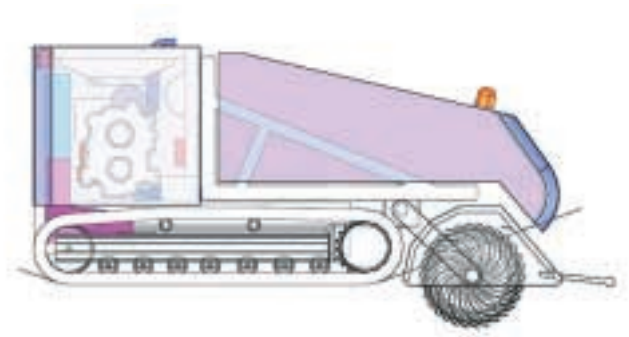
Cultivit is applicable in open fields and greenhouses. The Cultivit concept has a wide variety of advantages above other crop and soil management systems. Therefore, growers of vegetables, fruits and flowers around the globe will find their ally in the Cultivit soil treatment concept.

Contractors

Cultivit is also attractive for service contractors: Where other specialist's equipment generates income during short periods only, Cultivit is not limited to a single crop or season. Applied in different crops throughout the year, Cultivit is the contractor's best ally.

Manufacturing

VDL Groep's in-house industrial engineering and manufacturing facilities combined to supplies from other world class technological partners, guarantee highest levels of technical quality and durability.



Research

In crop and soil research the VDL Groep involved the Applied Plant Research Institute, part of the renowned Wageningen Agricultural University of the Netherlands.

Cultivit: advanced technology engineered and manufactured by the VDL Groep

The GPS guided / remote controlled Cultivit feels at home at fields everywhere in the world and equally well inside greenhouses, due to its minimised external dimensions.



Integrated technology

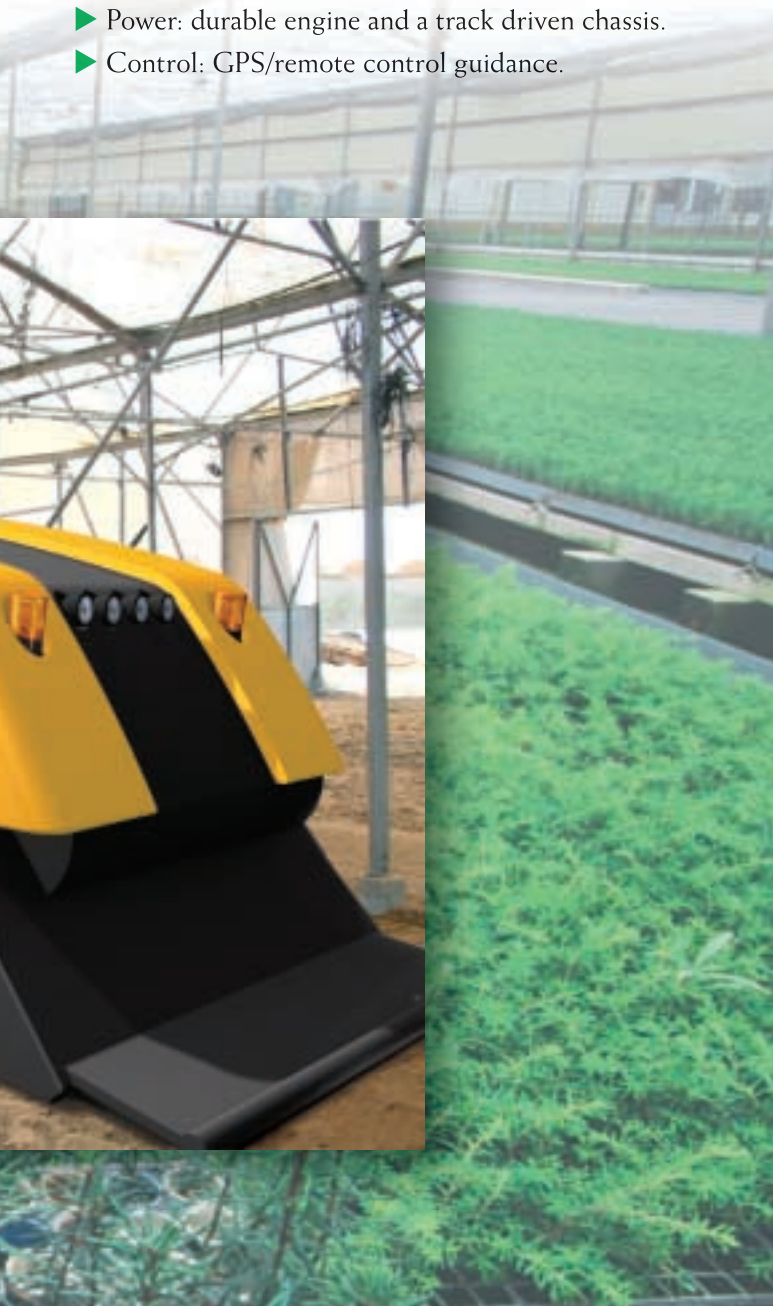
How it works ?

The heart of the soil treatment process is in the spader compartment. Inside, ultra heated air (clean and dry) mixes intensively with soil particles. The process of heating and spading operates automatically and the machine as a whole is self propelling.

Heating, spading, powering and controls are integrated functions, incorporated in a well engineered and designed body. Nevertheless VDL considers continuous, effective and efficient operation decisive in engineering, therefore VDL only applies world-class components.

What is inside?

- ▶ Air treatment: heater and heat exchanger with cutting edge energy efficiency.
- ▶ Soil treatment: rugged rotary spader.
- ▶ Power: durable engine and a track driven chassis.
- ▶ Control: GPS/remote control guidance.



Evolution of the technology



VDL Cultivit is part of the VDL Groep, an international industrial company focusing on the development, production and sales of technical products.

With its head offices in Eindhoven, the Netherlands, the VDL Groep consists of 69 subsidiaries (5,200 employees) in 16 countries. A wide spectrum of semi-manufactured and finished products are highly valued by our customers in agriculture, automotive and other industries.

VDL Cultivit b.v.

Hoevenweg 1, 5652 AW Eindhoven
P.O.Box 8811, 5605 LV Eindhoven, The Netherlands
Phone: +31 (0) 40 - 292 55 80
Fax: +31 (0) 40 - 292 55 02
Internet: www.vdlcultivit.com
E-mail: info@vdlcultivit.com

