

AutoAgronom

A Proven Sustainable Concept

Efficient method of Fertigation helping plants to grow intensively, while reducing rationally the usage of Water & Fertilizers, avoiding salinity and avoiding aquifer contamination

Dr. Yoseph Shoub *



The growing strategy of plants is linked to the environmental conditions. Plants act as meteorological, chemical, and biological 'Monitoring-probes' and they react to environmental conditions by their development and their growth pattern. Yet, their growth pattern depends on the presence of the secondary roots, and their ability to absorb, transport and supply water, oxygen and minerals to all the plant's organs.

Constant optimal ratio of water, oxygen, and minerals quantities (*combined the soil solution*) in the roots media is a vital precondition for efficient growth of intensive agricultural crops. However; many growers of intensive dripping-crops use to irrigate with excessive quantities of unused water and fertilizers. They do this according to predefined irrigation schedules, regardless of the small quantities of soil-solution used by the plants throughout the natural 24 hours rhythm of the

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plant's physiological activities. The excessive quantities of water and fertilizers supplied by the growers to the root's volume, eliminate the presence of the oxygen, create 'salinity', moderate the growth of the plants and decrease yields. At the same time, precious natural resources are being wasted while the grower does not meet his income potential. Moreover, every year, millions of tons of excess fertilizers are consciously programmed to leak from intensive agricultural areas. In fact this contaminates the drinking water aquifers all over the world. The appropriate sensors of the AutoAgronom irrigation-control-system, automatically detect and control the important physical and chemical parameters in the roots zone, which are related and affect the growing conditions of the secondary roots.**

Practically, the AutoAgronom concept, deals with supplying small water quantities back to the media volumes from where the water has been taken, (20 - 60cc per irrigation pulse), followed on 'real time' - the usage of the water quantities used by the plants. The data received via the AutoAgronom sensors are analyzed by the AutoAgronom computer. The small feeding-solutions quantities, supplied accurately in real time 24 hours per day, hold fresh dissolved oxygen in it, this affects positively and efficiently the plants' vital physiological activities: the

Transpiration, the Photosynthesis, and the Translocation of the photosynthetic products to the plant's growing sites. It helps the plants to grow intensively while it reduces rationally the usage of water and fertilizer. The benefits gained from the accurate timing- control include; dramatic improvement of the secondary roots growth, easy absorption of the soil solution, night and day, to all the plant's organs, increase of daily growth rates and shorter growing periods.

All this means - improved production, smaller amounts of water and fertilizers, and avoiding the contamination of the aquifers.

* Dr. Yoseph Shoub - A user of the AutoAgronom system for the last 12 years. He is a consultant for 'AutoAgronom Israel Ltd.' (www.autoagrnom.com)

Dr. Shoub is a plant physiologist and a gerbera breeder who works for 'Selecta Cut Flowers' S.A.U. (www.gerberaisrael.com)

** The role of the secondary roots is to absorb the soil solution, no matter for which plant; they all have the same task. They are built for it: so let them do it the easy way; the AutoAgronom way.

AutoAgronom systems control successfully many Vegetables varieties in different countries; flowers, berries, cannabis, fruit-trees and bananas, indoors and outdoors, in different soils and in containers media.