CULTURAL PRACTICES IN VEGETABLE PRODUCTION

SOIL PREPARATION

- Soil tillage
- Increase of organic matter content to improve soil texture and related characteristics, soil chemical properties and cation exchange capacity
- Control of salinity and alkalinity
- Provision of adequate and balanced nutrient supply

Soil tillage

The seedbed must be well prepared, usually following ploughing.

Soil compaction significantly reduces plant growth and yield.

ROTATION

Crop rotation is a planned order of specific dissimilar types of crops planted on the same field for a number of subsequent years (commonly 2 to 4).

Crop rotation mitigates the build-up of pathogens and pests that often occurs when one species is continuously cropped.
Crop rotation can improve soil structure and fertility by alternating deep-rooted and shallow-rooted plants.

Objectives

Crop rotation has several agronomic objectives including:

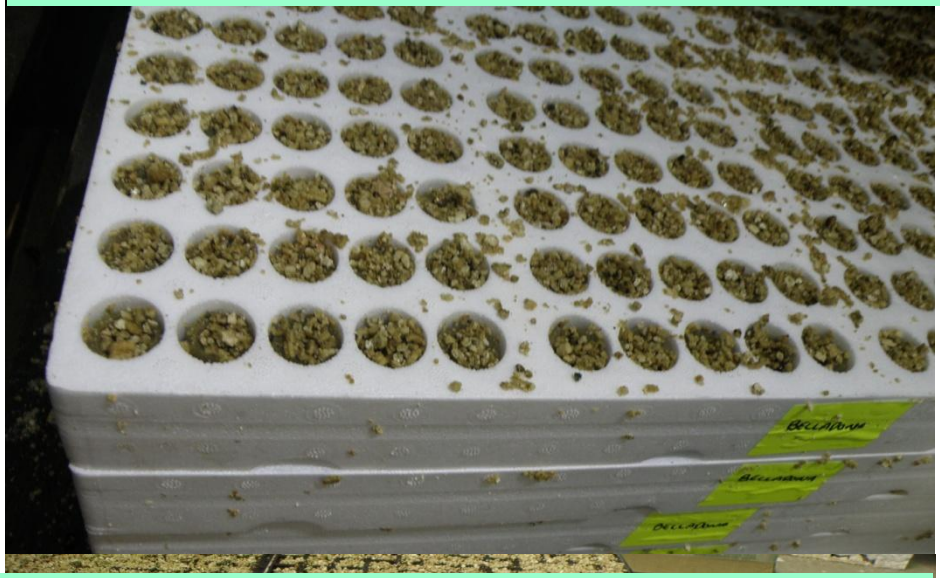
- **maintaining or increasing yield by helping to control weeds, pests and crop diseases and increasing plants' resilience to adverse weather effects;**
- **improving soil fertility and structure and ensuring nutrient management by balancing the fertility demands of different crops.**

Vegetable crop establishment

- **Sowing (placement of seed directly to the field)**
- **Transplanting of seedlings produced in nurseries**

Sowing in nurseries

Sowing in polystyrene trays



Pepper seedlings ready for transplanting

Sowing in plastic trays

Seedling trays placed on benches in a nursery

A small nursery


Automated control of a sowing machine


Irrigation of seedlings in a nursery
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Seedlings on benches


Machinery for automated sowing in seedling trays
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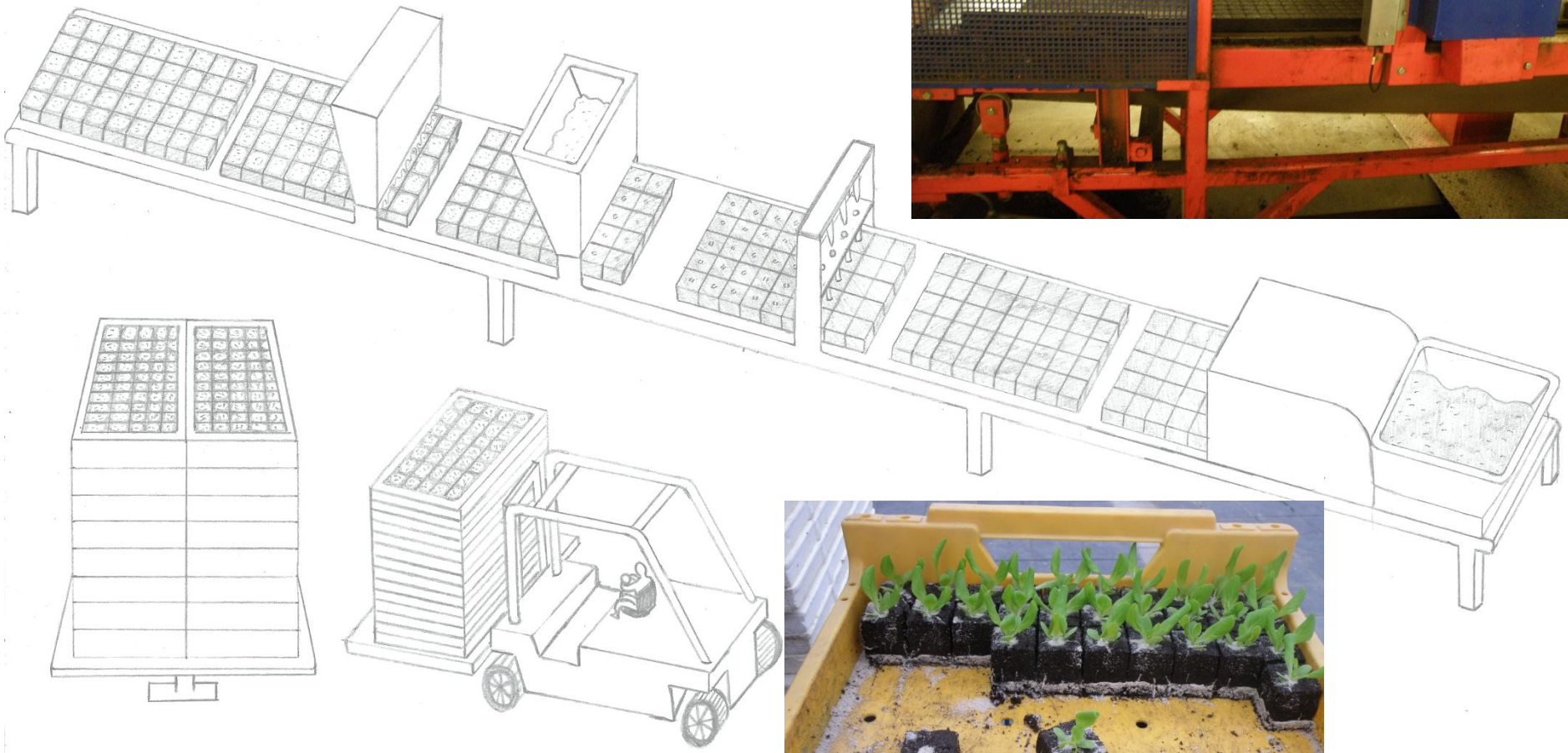
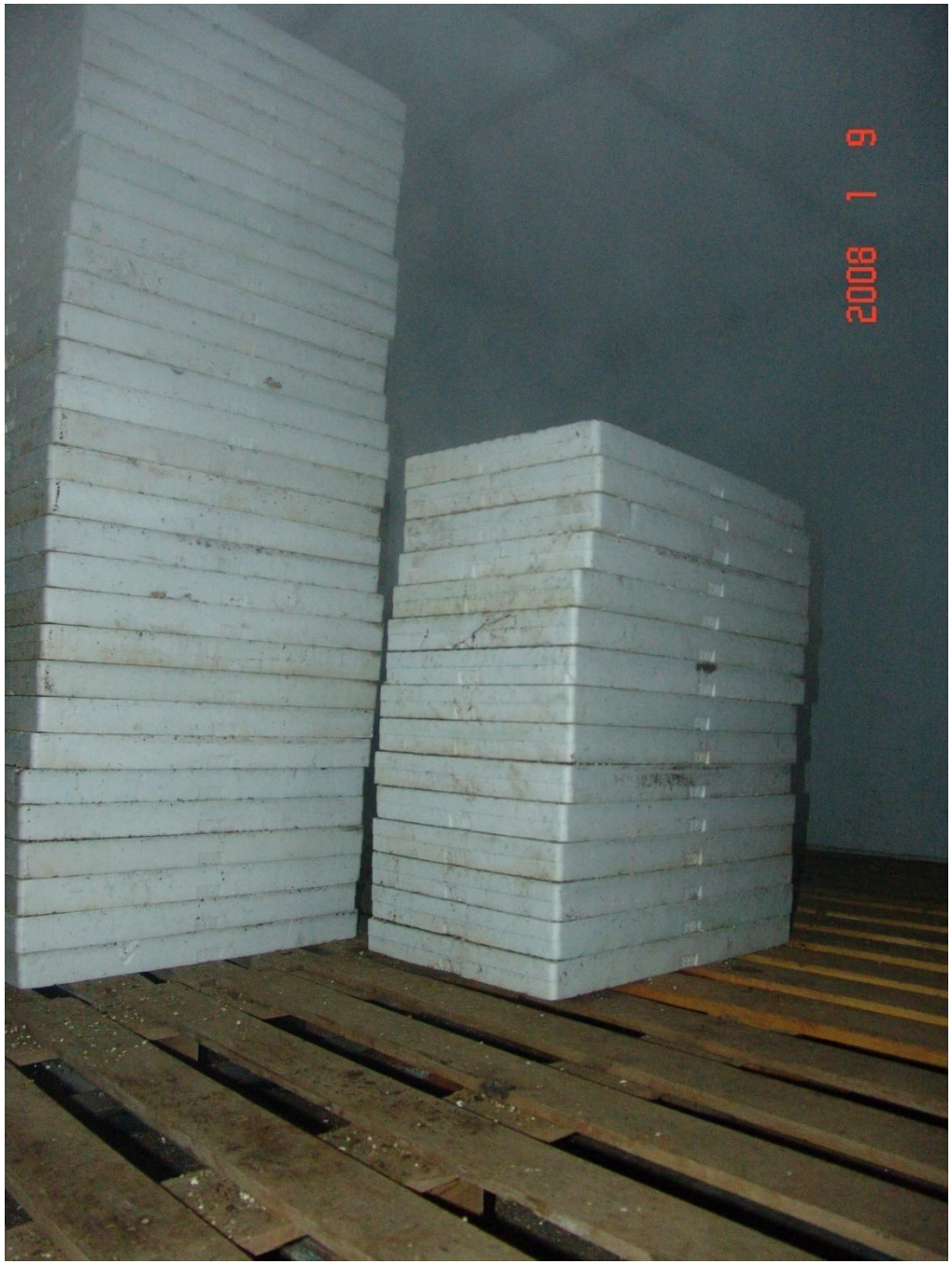
Automated equipment for production of substrate cubes and sowing in a nursery.





Germination chamber in a nursery

Transplanting

Transplanting of leek in an open field

Transplanting of lettuce in the greenhouse

Soil mulching

Objectives

- **Increase soil temperature to achieve earliness**
- **Weed control**
- **Preserve soil moisture**
- **Prevent soil errosion**

Mulching materials

- Plastic sheet
- Straw
- Sawdust
- Tree bark
- Plant residues

Mulching in potato and watermelon crops

Cultivation of vegetables in low tunnels

- **The main objective is earliness**
- **This technique is based on trapping thermal ratiation emmitted by the soil**
- **Low tunnels are applied in combination with soil mulching**

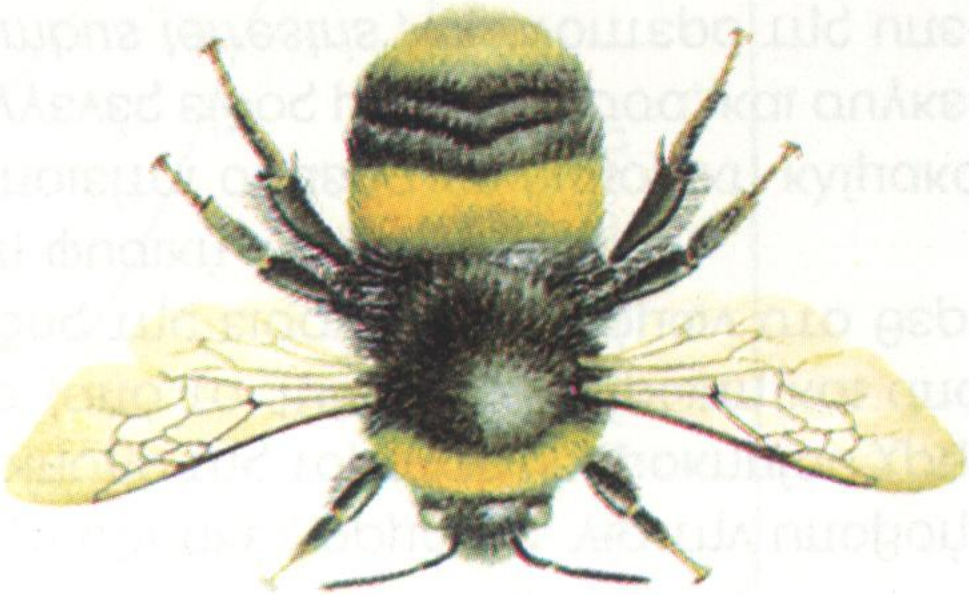
Melon in low tunnel

Use of bumble bees for pollination in greenhouses

A. Worker B. Queen

A

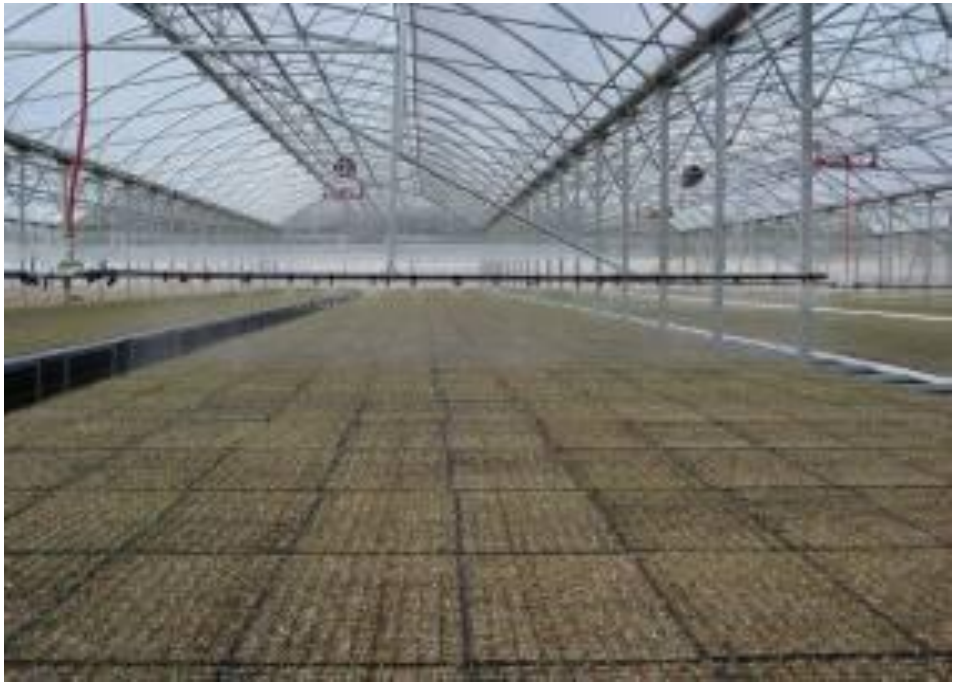
B



Irrigation of vegetables

Sprinkler irrigation

- Waste of water
- Wet foliage (disease risk)
- Suitable mainly for nurseries
- Suitable mainly for low crops



Drip irrigation

- Most widely used method
- Saves water
- Maximum water use efficiency
- Minimum labor
- Uniformity in water supply