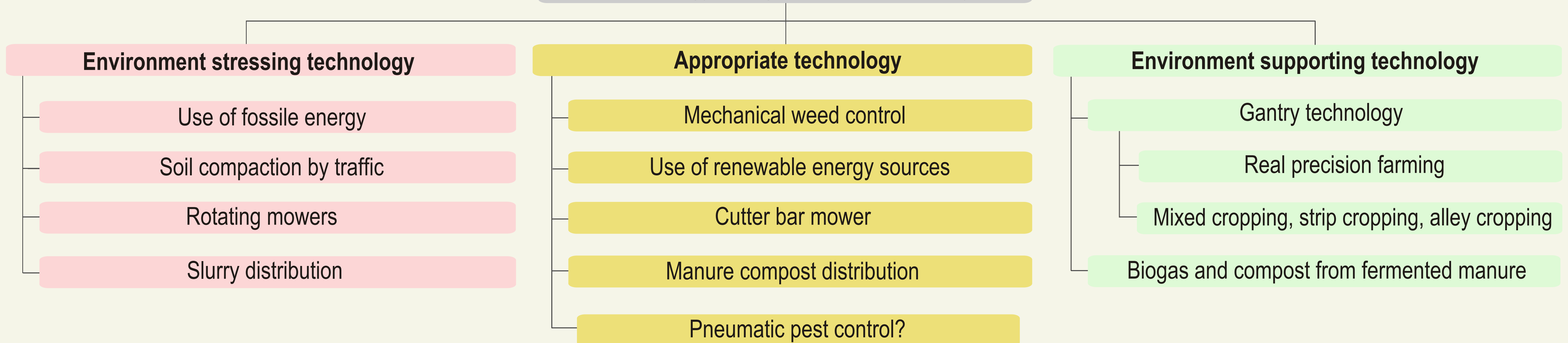


Gantry technology in organic crop production

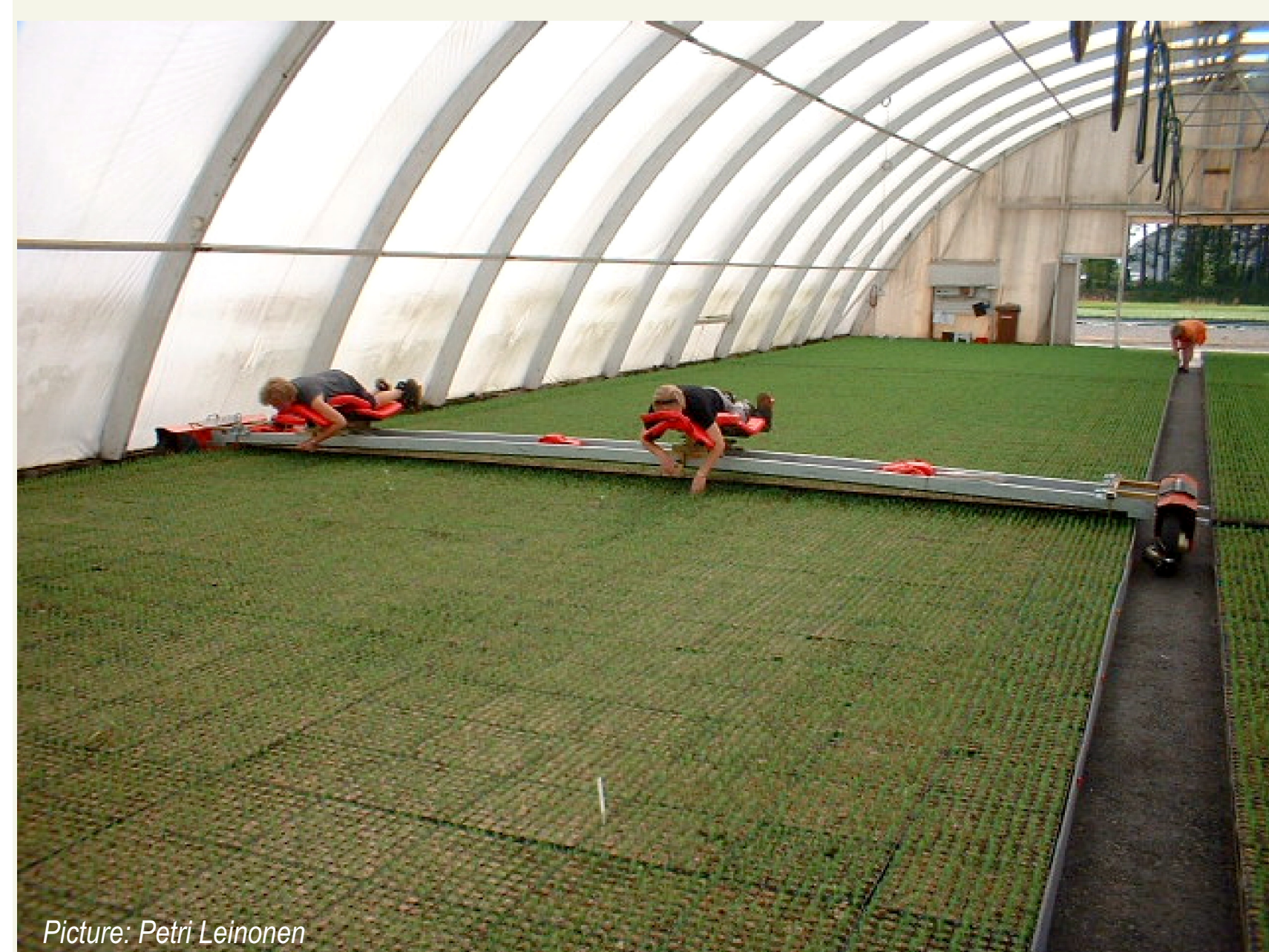
Objectives

Costs of agricultural machinery and farm buildings are substantial, comprising about 40% of production costs also in organic farming. What are the tasks of agricultural machinery and agricultural engineering research in organic farming? Which agricultural engineering solutions support the basic principles of organic farming?

Technology in organic crop husbandry



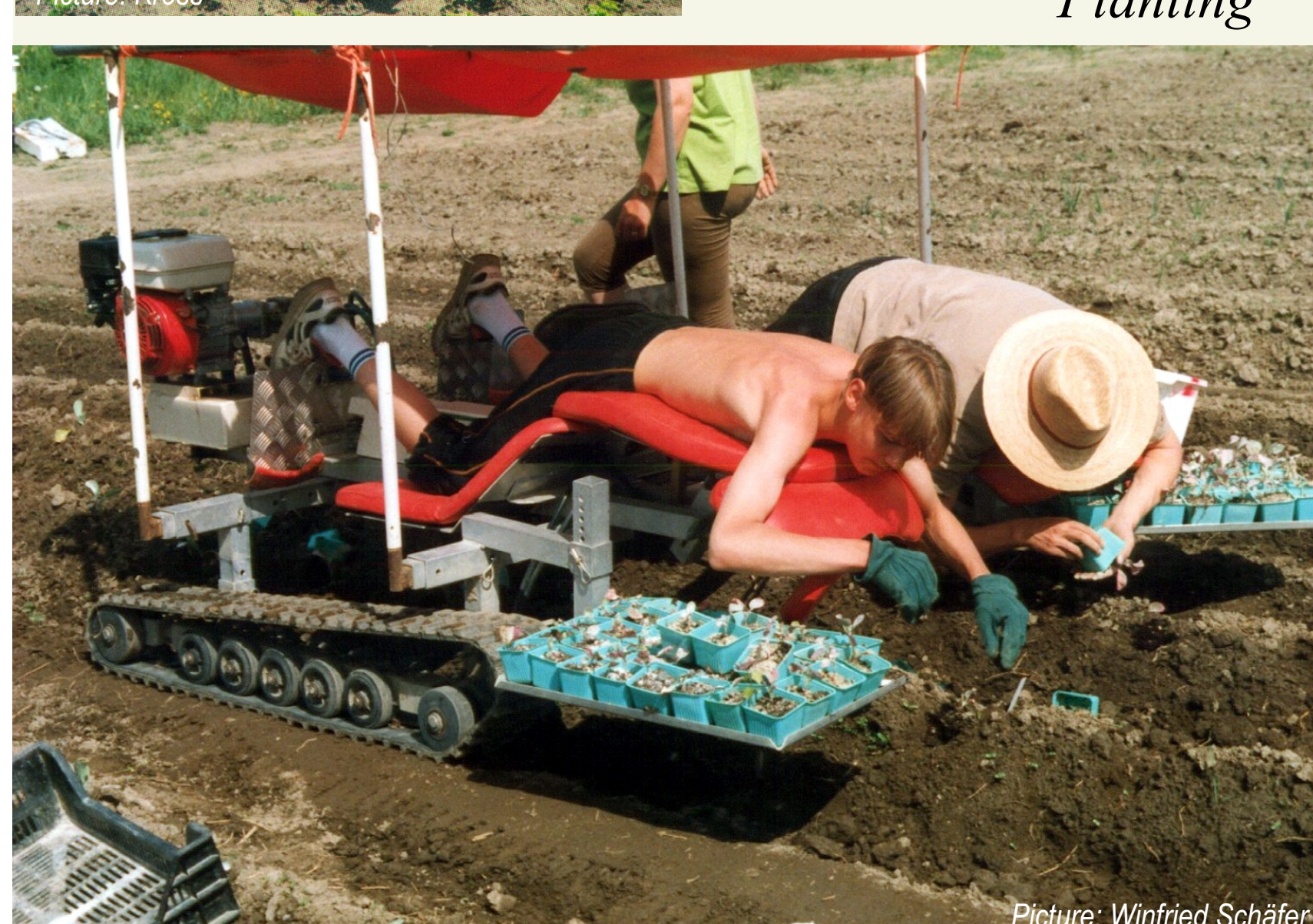
Mini gantry



... battery powered



Weed control



Planting

Results

Gantry technology

- saves energy and work
- increases profitability
- improves and preserves soil structure
- extends working time periods and assures timeliness of critical operations
- offers weather and day light independent field work
- allows precise fertiliser distribution and irrigation
- supports high precision intra-row weed control
- allows field mapping for various objectives
- offers automation of repeating work steps
- grants better working conditions

Gantry technology may in future support organic crop production by

- continuous mapping of plot specific soil and flora data
- cultivation of perennial vegetation covering
- mixed cropping/alley cropping systems using allelopathic effects for weed and pest resistance
- in time sowing, in time weed and pest control
- mulch based cultivating and fertilising

Gantry technology renders excellent opportunity for transdisciplinary research and co-operation between life scientists and engineers.



Electrically powered centre pivot



12-m gantry with combine harvester



6-m gantry on soil bin

46-m gantry in vegetable production

Picture: <http://www.tec.agrar.tu-muenchen.de/gartentech/bilder/PVRfoto.jpg>

