

Harvest of vegetables

Main market strategies of vegetable production

- For fresh market use
 - continuous supply from greenhouse
 - early season
 - main season
- For long-term storage
- For processing

Harvest method

- **Manual harvesting** - picking, collecting/packing, carriage within the field
 - better quality - less (machine induced) physical damage, less bruising
 - less damage to the plants
 - better shelf-life
 - increased yield
 - cheaper in case of limited scale production
- Collection and carriage by hand
- Removal is aided by an undercutter
- Machine aided, partially mechanized - collection and/or carriage is done by machines

Harvest time

The optimal harvest time ensures the best value in terms of quality, yield marketability

- **Its exact time depends on the**
 - use
 - market need
 - transport distance
 - defined maturity (harvest) stage
 - harvest method
 - pre-harvest interval of chemical spraying
- **Methods for judging maturity, harvest time**
 - Subjective – colour, size, firmness, (scent), drying of some plant parts
 - Objective – firmness, dry matter content, soluble solids content (Brix^o), (heat unit – degree days)

What is the difficulty in harvesting vegetables

- Vegetables are highly susceptible to physical damage
- Many of them are marketed freshly
- Some of them ripe continuously
- Optimal harvest stage can varies by species, by cultivar type and by the way of usage
- Difficult to mechanise

Harvest has big labour or machinery need, a decisive cost factor of the production process.

Harvest method

- **Mechanized harvesting – by harvesters**
 - Cheaper in case of large scale production
 - Needs much less labour
 - Acceptable quality for processing and storage
- **Main types of harvest machinery:**
 - Cutters - e.g. spinach, lettuce, tomato, sweet corn harvesters
 - Undercutters – flat blade, oscillating blades, rotating bar – e.g. onion, carrot harvesters
 - Belt lifting harvesters – e.g. carrot harvester
 - Harvesting head with picking fingers – eg. pea harvester, bean harvester
 - Selective harvesters?

Harvest maturity

Biological maturity - Vegetative maturity - Harvest maturity

- Maturity stages of fruit vegetables:
 - edible immature fruit
 - smaller than full size
 - full size immature fruit
 - mature fruit

Frequency of the harvests

- Once-over harvesting, single harvesting
- Multiple harvests (2-4)
- Harvesting in succession