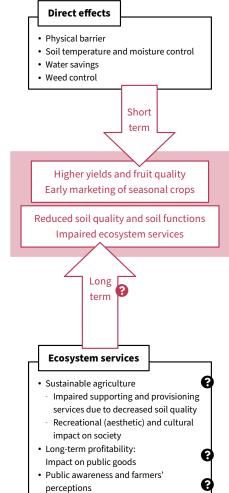
Reduced water and gas exchange Need for irrigation Increased soil microbial activity Shifts in soil microbial communities

Soil quality

- Induced soil water repellency
 Accelerated C/N turnover
- Preferential formation of labile
- soil organic matter (SOM)
 Long-term decrease in stable
- and humified SOM poolsDepletion of micro- and
- macronutrients
 Release of greenhouse gases

Long-term soil degradation Impaired soil functioning Reduced biodiversity



No degradation Pesticide runoff from mulch surfaces

Environmental pollution

- Accumulation of plastic residues
- Microplastic formation
- Leaching of toxic additives
 Removal and recycling of used films difficult
- Incineration / landfills

Aesthetic pollution
Pollution with plastics,
phthalates and pesticides
Costly waste management