Can combined food/non-food cropping systems facilitate transitions to agroecological systems in Europe?

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Making the transition! But on which type of land?

<table>
<thead>
<tr>
<th>Productive agricultural land</th>
<th>Economically marginal land</th>
<th>Unsuitable low grade land</th>
<th>„Natural“ land</th>
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</thead>
</table>

- Sustainable Intensification
- Organic Farming
- High Nature Value Farming
- Crop Diversification
- Surplus land
Segregation: Food first on productive land

Table 1: Segregation of land use for food, agriculture, surplus land, and biodiversity conservation.

- Productive agricultural land
- Economically marginal land
- Unsuitable low grade land
- "Natural" land

Yield

Agriculture

- Food crops
- Grassland

Surplus land

- Grassland
- Energy crops

Biodiversity

Spared for Nature Conservation

Integration: Combined food/non-food systems

Examles of combined food/non-food systems

- Agroforestry systems (silvo-arable, silvo-pastoral)
- Multicropping systems:
  - Double cropping
  - Relay cropping
  - Intercropping
- Mixed crop rotations with food and non-food crops
- Perennial crops interspersed with annual crops at the landscape scale
Scenarios of combined food/non-food systems
Do non-food-crops function as service crops?

Crop types
- Food/fodder
- 1st gen. energy crop
- Dedicated energy crop
- Grassland

Productive agricultural land
Economically marginal land
Unsuitable marginal land

Food can be used for energy and vice versa

Food and energy crops in rotation
Promotion of regulating services in food crops??

Questions

• Which type of combined food/non-food cropping system on which type of land?
• Which constraints have to be overcome for such a transition?
• Could non-food crops fulfil a double-function: provisioning and regulating ecosystem service?
Thank you!

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