Shared Innovation Space for Sustainable Productivity of Grasslands in Europe

Project Acronym: Inno4Grass

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List of descriptors and indicators to be used for running the characterisation of farms and case studies (M3)

Responsible partner: INRA

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Content

Descriptors for the survey and case studies of Inno4Grass

As a result of the discussion between WP2 and WP4, a set of descriptors has been identified.

This set includes four sections, with a wide range of descriptors in each of them. The set is as follows. Confidential information is in italics.

Basic farm description

- o Social data: *name, age, address*, annual work units
- o Farm type (legal issue)
- o Ecological data:
    - soil type,
    - climate type,
    - main grass and legumes species met in permanent grasslands vegetation,
    - main grass and legumes species met in temporary grasslands vegetation.

    According to the locations, the perennial vs annual status of the grass and legume species will be documented. Due to partners of the project and the locations of most surveys and case study farms, it is likely that it is mainly perennial species that will be met in both permanent and temporary grasslands

    - Names of the dominant grass and legume species in permanent grasslands
    - Names of the dominant grass and legume species in temporary grasslands
- o Farm Structure survey:
    - Acreages: agricultural land, annual fodder crops, arable land, permanent crops, permanent grasslands, temporary grasslands, other grazing areas, other forage areas
    - Animals: number of animals per animal type, total livestock units, main breeds, average stocking rate
- o Grassland management: grassland exclusively grazed, grassland exclusively mown, mixed use, grazing type, forage conservation type, length of grazing season, average fertilisation rate
- o Animal performance: milk production per head, average age when slaughtered, average carcass weight, average classification rate of the carcass

Description of innovation:

- o Domain of innovation
- o Short description of innovation
- o Reasons for the farmer to create this innovation

- o Description of the implementation phase work (achievements, success, failures, constraints, results)
- o Expected/Achieved added value of the innovation
- o Reasons why the innovation is working on the farm

Inspiration of the innovation
- o Main sources of information/inspiration

Expectations and needs with respect to grasslands
- o What other problem should be solved for this farmer?
- o What tools does this farmer use for the grassland management?
- o Suggestion for improvement of the specific tool
- o Does the farmer have suggestions on grassland research topics

Indicators to document the performance of farms

This set of descriptors will make it possible to calculate indicators of performance,

- o Technical indicators
  - o Stocking rate. Calculated as the ratio between total Livestock Units and available grazed area
  - o Dry matter and protein self-sufficiency.
    - Dry matter and protein self-sufficiency will be calculated on the basis of 1) estimated dry matter and protein intake of the livestock and 2) the feed bought from outside of the farm (forage and concentrate (cereals, protein-rich concentrate)
- o Economic indicators
  - o Standard output, i.e. monetary value of agricultural output at farm-gate prices for crops and livestock.
  - o Input costs
- o Environmental indicators
  - o Percentage of permanent and temporary grasslands
  - o Biodiversity indicators
    - Number of species cultivated on the farm
    - Percentage of legumes in permanent and temporary grasslands
    - Presence of hedges (expressed in m/ha)
  - o Nitrogen balance measured at the farm gate: difference between all nitrogen inputs (N_2 fixation not included) and nitrogen outputs (animal products, exports of sewage)
- o Social indicators in relation to innovation: perception of innovation

Innovations: description and adoption

Technical and organizational innovations will be described through the farm survey. It will make it possible to document

- the innovation per se and its relationship with all the features of the farm (that will latter be described through cognitive mapping)
- the sociological aspects associated with innovation: origin, sourcing, motivation. This will be key aspects to assess both i) the social networks that play a role for dissemination of information and knowledge and ii) the factors favorable to innovation adoption.