MACSUR Group meeeting S-Europe (Mediterranean)

• Participants
  – M Banse
  – F Brouwer
  – Italian team (Dono, Doro, Cortignani, Roggero, Seddaiu)
  – Gianni Bellocchi (LiveM)

• The discussion was focussed on the cases that are being analysed by the group participants, as an example
Regional case studies in the Med area

- Italy
  - Sardinia, district of Oristano (50kha)
  - Po valley, Parmigiano Reggiano dairy district
  - other pilots are of interest (see WPC6 list) but were not discussed
    - Alps, rainfed wheat in southern Italy, vineyard, olive…

- Israel?
- Spain?
Sardinia case study (Oristano)

• very diversified district, representative of a wide range of Med farming systems
  – dairy cattle
  – sheep grazing systems
  – rainfed cereals (durum wheat, barley)
  – irrigated cereals (silage maize, rice)
  – horticulture

• some 13 farm types characterized from an economic point of view
Sardinia case study: models

- Aiming to assess probability distributions of critical response variables
  - current vs near future climate
- near future climate perspective (2020-2030) to address the transition period and EU policy CC adaptation strategy
- Impact indicators:
  - crop yields and water requirements
  - cattle milk quantity and quality
- DSP models simulate farmers’ behaviours vs expectations
  - including ex post options to adjust choices
  - based on farm typologies and related choices
Sardinia case study: models

• Climate:
  – observed (60 years) → RAMS downscaling →
    • 2 series of daily data
      – 2000-2010 → WG → 150 years
      – 2020-2030 → WG → 150 years
    • homogeneous climatic area (50kha)

• Crop models
  – EPIC, DSSAT, Armosa, [Cropsyst]

• LiveM: THI in dairy cattle

• TradeM
  – DSP to assess farmers choices at various stages
  – possible coupling w global models (eg CAPRI vs synthetic climatic indicators)
Work hypotheses for S-European regional pilots

- to check for other Med case studies (e.g., Israel, durum wheat)
- to couple CAPRI to inform DSP model about input and output price dynamics
- adaptation options emerging from the engagement of stakeholders (i.e., farmers and policy makers) using model outcomes as a “socio-tech object” for different farm typologies on what is needed/feasible to enhance Response Ability
- to compare similar farming systems across EU (e.g., dairy cattle or rainfed)
- uncertainty assessment associated to the use of different cropping system models is feasible by sharing datasets and testing the outputs
- Challenge: to engage with JPI governing board about the next climatic measures in the framework of the rural development plan 2014-2020
example of available datasets
(from group participants)

– cereal datasets (durum wheat, maize)
– pasture production dataset (LiveM)
– long term field experiments in Italy (IC-FAR)
  mainly on wheat and maize incl. tillage and fertilization
example of stakeholders from Sardinian case study

• farmers (participatory experiments)
  – Climate constraints perceptions
• farmers unions
• policy makers at regional and national level
who will contribute?

• Italian partnership (Crop-Live-Trade)
• Israel?
• Spain?
• Possibly N-S transect for intensive or extensive farming systems
What are the improvements

• better model parameters for Med areas
• understanding of the nature of the issue under the complex situations at the district scale
• better understanding of the kind of interventions needed under climatic or market pressures
• capacity building investments on modelers