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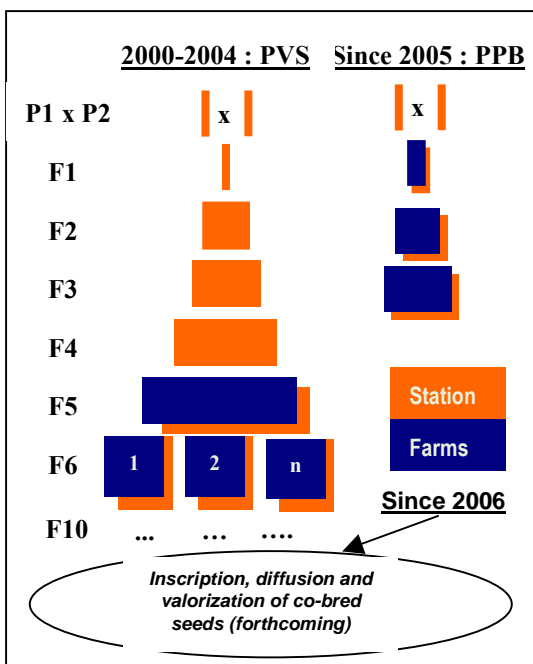


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FROM ORGANIC DURUM WHEAT PRODUCERS TO CONSUMERS: COMPLEMENTARITY OF ROLES IN PARTICIPATORY PLANT BREEDING

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Durum wheat produced in organic conditions does not fulfill the quality requirements of the processing industry. Since 2000, an organic durum wheat participatory breeding program is implemented in the South of France. It is neither a farmer-led nor a formal-led program, but a program led by both professionals and researchers, in which farmers are considered as real partners and not only end-users of varieties and in which collaboration between farmers and downstream actors is promoted.



Objectives of the PPB project

- ◆ to obtain suitable varieties by improving local adaptation
- ◆ to promote genetic diversity
- ◆ to valorize farmers' knowledge and know-how
- ◆ to prompt industrialists and consumers to value genetic diversity and farmers' role along a sustainable development perspective

2000-2004: Participatory Varietal Selection (PVS)

Each year: 30 lines x 10 locations (7 on farm and 3 on station)

Actors' roles:

- ▼ Researchers: generating variability-on station nurseries-, agronomic and socio-economic expertise, training on experimental methodology
- ▼ Farmers: on-going evaluations; dynamic management of populations
- ▼ Industrials : post-harvest evaluations: technological results.

Regular field visits allow to discuss about genetic diversity around experimental plots and to select lines according to agronomical, technological, economical and social criteria

Since 2005: Participatory Plant Breeding (PPB)

Farmers are involved in generating variability, management of populations, selection among early generation materials (F1-F2)

Results ...

- After 5 years of evaluation, some lines appear really efficient in nitrogen absorption and represent a good compromise between productivity level and protein content under organic conditions.
- Some lines are approved unanimously because they suit both to farmers' preferences and industrials' demand.
- Two different and complementary niches of markets are targeted but juridic issues have to be studied.



Fig 1: Relations between Yield obtained for durum wheat cultivars cultivated under organic conditions (means of 10 locations) and under conventional conditions (means of 4 locations)

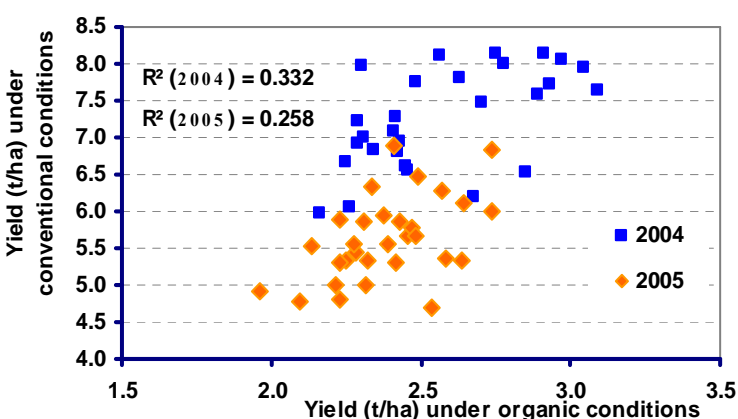
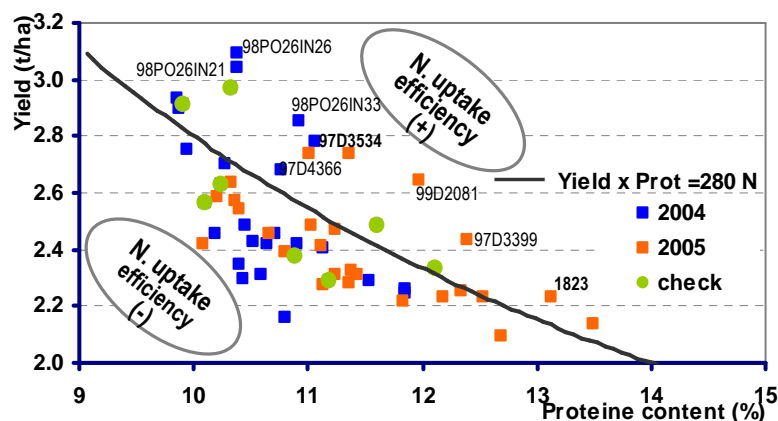


Fig 2: Durum wheat cultivars efficiency for nitrogen assimilation Relation between yield (t/ha) and protein content (%) under organic conditions (means 10 locations/year)



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