Intensive fruit production in mountain areas: the case of Alto Adige

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Annette Freibauer, Erik Mathijs, Gianluca Brunori, Zoya Damianova, Elie Faroult, Joan Girona i Gomis, Lance O´Brien, Sébastien Treyer. Sustainable food consumption and production in a resource-constrained world. 3rd SCAR Foresight Exercise (2011), Brussels, Belgium.

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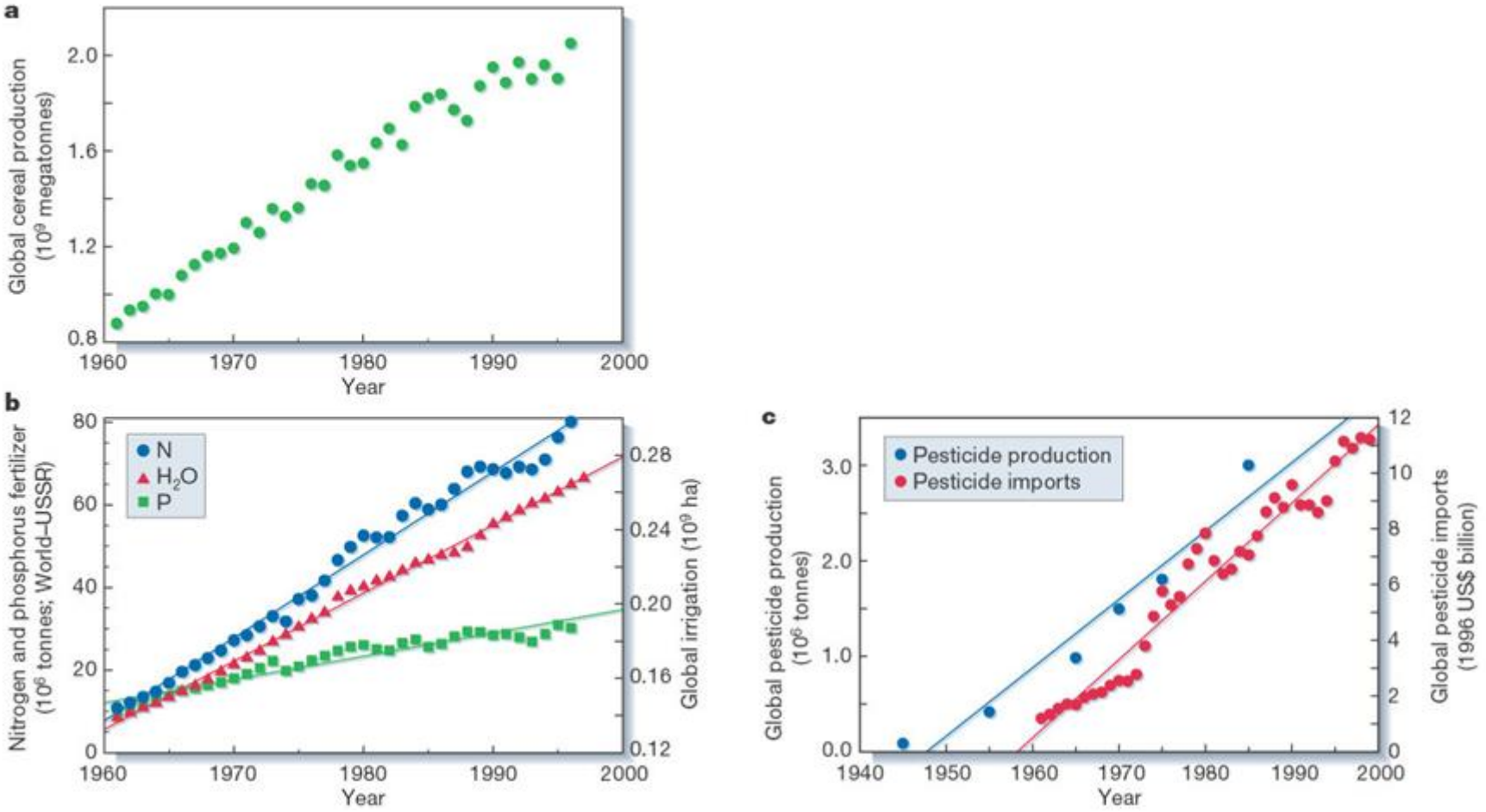
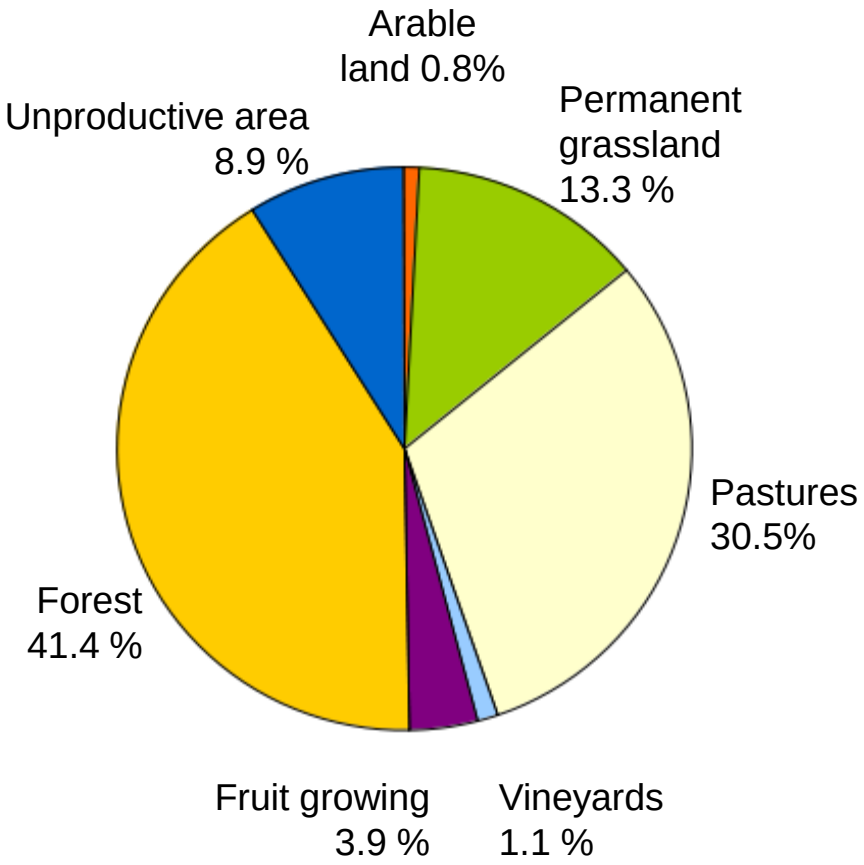


Land use in South Tyrol

Areas according to land use

Total area: 486.000 ha

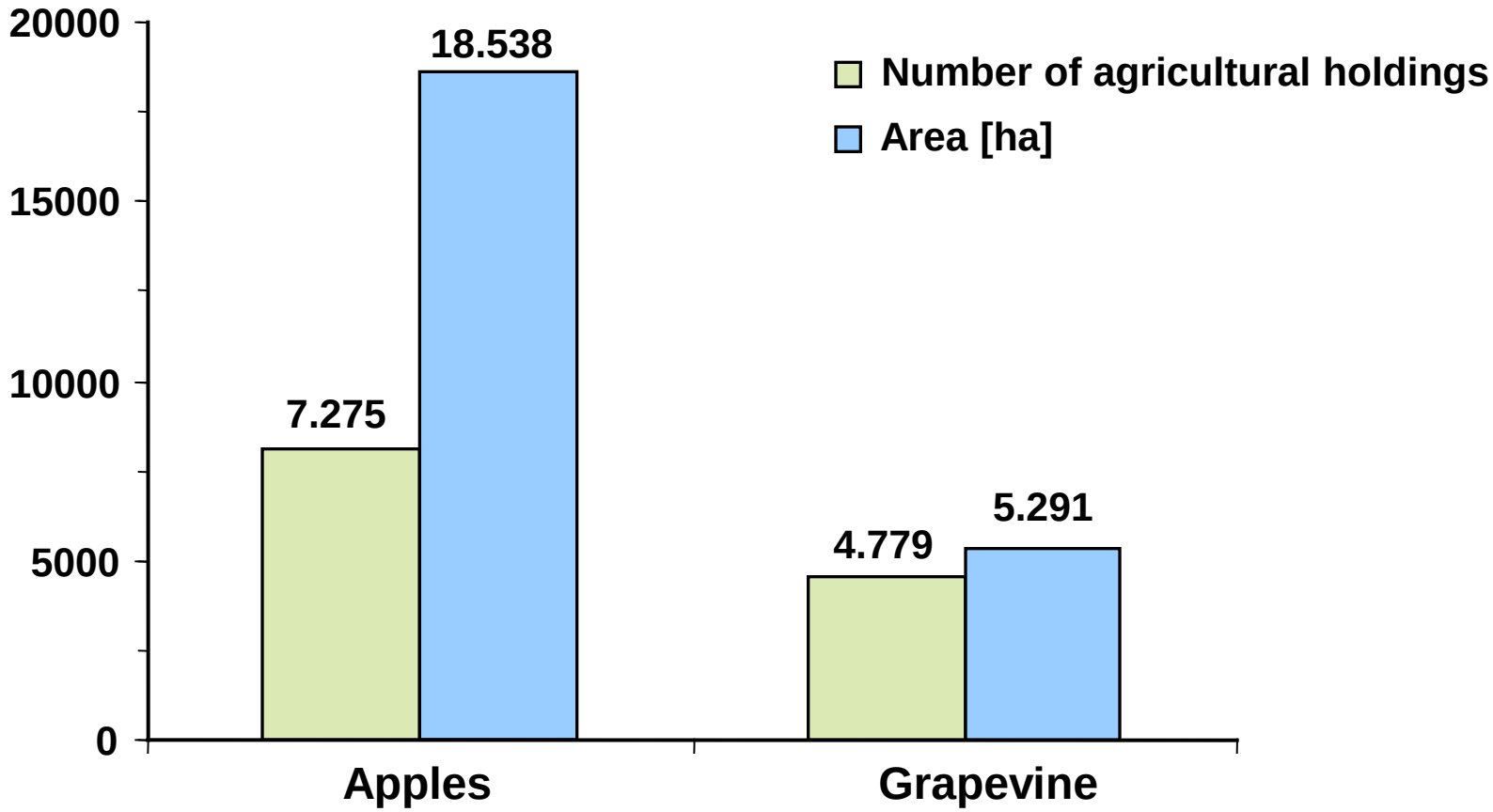


Fruit crops

Total area: 24.282 ha

Crop	Area (ha)
Apple	18.538
Grapevine	5.291
Strawberries	125
Chestnuts	123
Apricots	65
Other berries	60
Pears	57
Kiwi	13
Olives	10
Peach and nectarines	4

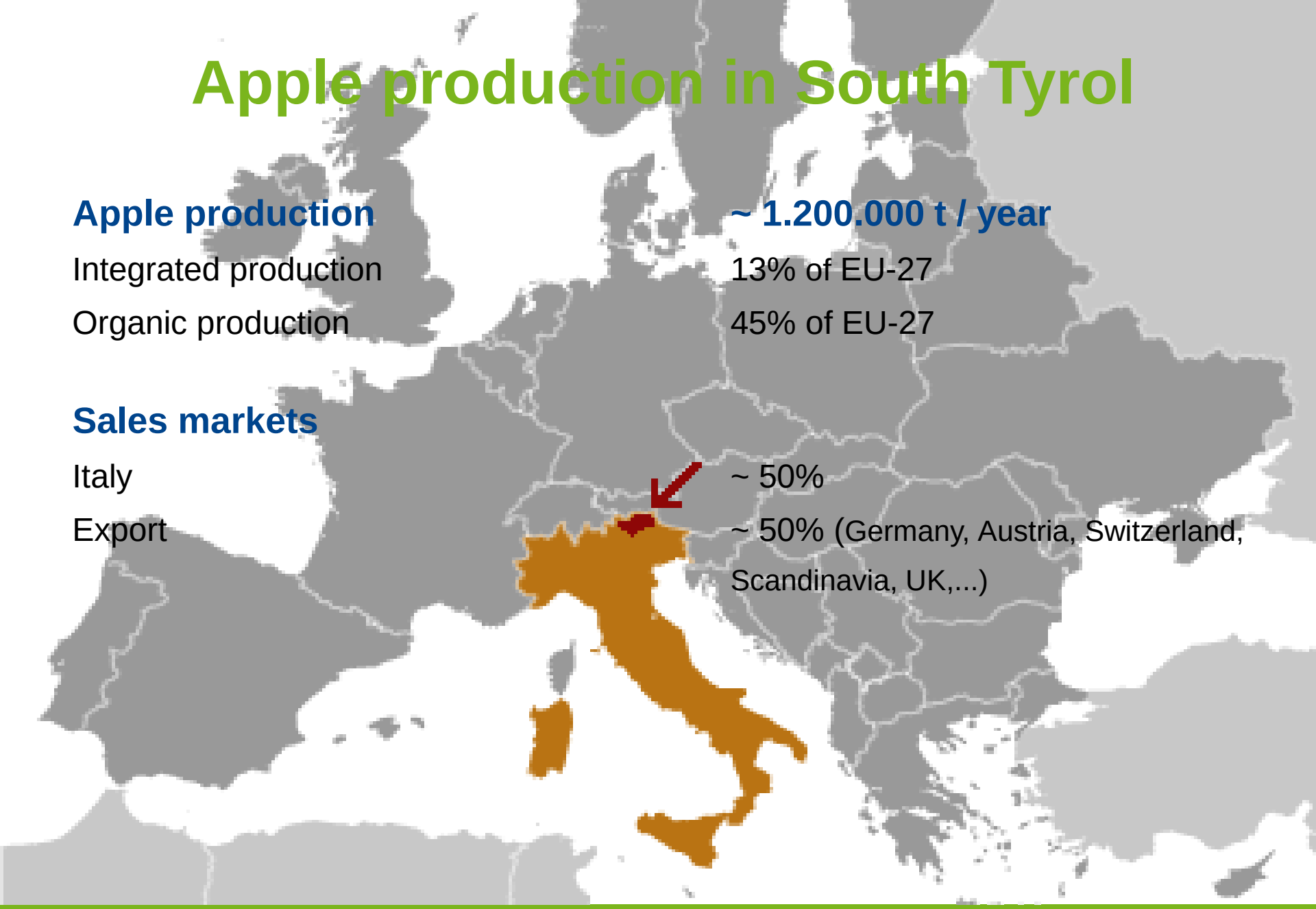
Fruit and Wine growing in South Tyrol



Mean area: **~ 2,5 ha / holding** **~ 1 ha / holding**

Apple production in South Tyrol

Apple production	**~ 1.200.000 t / year**
Integrated production	13% of EU-27
Organic production	45% of EU-27
Sales markets	
Italy	~ 50%
Export	~ 50% (Germany, Austria, Switzerland, Scandinavia, UK,...)



VI.P = **7** co-operatives
6.000 ha 290.000 t

Cooperation 90%

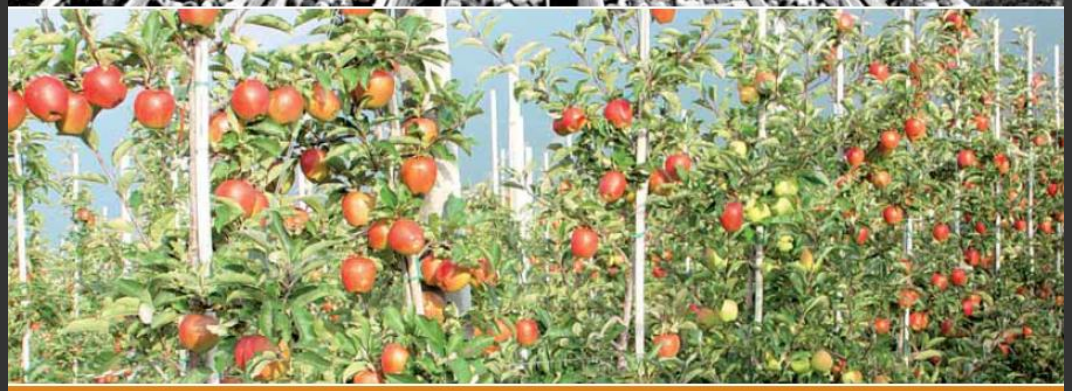
BIO
ALPE
OVEG
GEOS
MIVO
ORTLER
JUVAL
NOG
POG
BOGAL
BIO
CAFA
MERAN
OGA
IVO
Gargazon
Tscherms
M-T-C
Pomus
Lanaf.-OGOL
POMUS
MELIX
Lana
LEV
TOG
OBSI
GOG
FRUBONA
Fruchthof Ü.A.
12xGr.
GRUFRUT
LACRA
ESO
Kaiser A.
EGMA_Kaltern
EOFRU
ESOG
NEUFRUCHT
Neuselifrut
UNIFR.-KURM
MELIX

Val Venosta
Vinschgau
Benvenuti nel giardino delle mele
Willkommen im Apfelgarten

VOG

VOG = **17** co-operatives
10.600 ha 650.000 t

OCCASIONAL PAPERS ON **INNOVATION IN FAMILY FARMING**



APPLE-PRODUCING FAMILY FARMS IN SOUTH TYROL: AN AGRICULTURE INNOVATION CASE STUDY

Innovation


kurtwerth-consulting 2011

Laimburg Research Centre for Agriculture and Forestry

Mission

Research and development to increase the **competitiveness and sustainability** of food production in South Tyrol by bringing innovation to practice.

Starting in 1975 as a fruit and wine growing institution, Laimburg has transformed itself into a **modern and dynamic agricultural and food research centre** widely recognised in Europe.

Areas of expertise

Fruit growing	**Viticulture-enology**	**Crop protection**	**Mountain agriculture**	**Specialty crops**

Fruiticulture

Soil, fertilization and irrigation:
Responsible use of natural resources

Pomology:
Testing of new apple varieties and rootstocks
Apple breeding program since 1997
Gene bank with 120 local apple varieties

Plant physiology:
Pruning methods, planting systems, and tree forms: fruit quality and yield

Fruit and vegetable storage:
Quality control of fruit, ripeness determination
Innovative methods for storage (DCA)

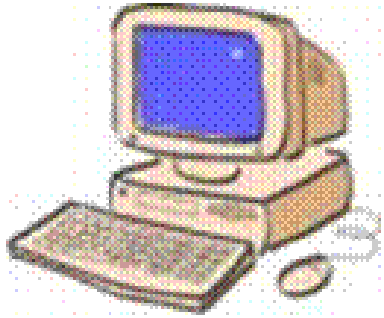
Organic farming:
Regulation of the most common harmful pests, crop load regulation
Variety testing for organic agriculture

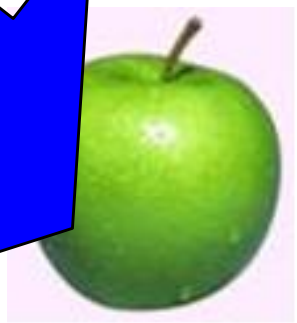
Innovation: Beispiel Biologische Maikäferbekämpfung

Pilz *Beauveria brongniartii* befällt Engerlinge

Beispiel Apfelzüchtung

Beispiel Obstlagerung





Higher energy light excites chlorophyll

Chlorophyll emission of lower energy

- non-destructive
- on-line
- same fruit

At O_2 stress
F_0 increases,
estimated as F_α
(Robert Prange, 2002 and 2003)

DCA trials

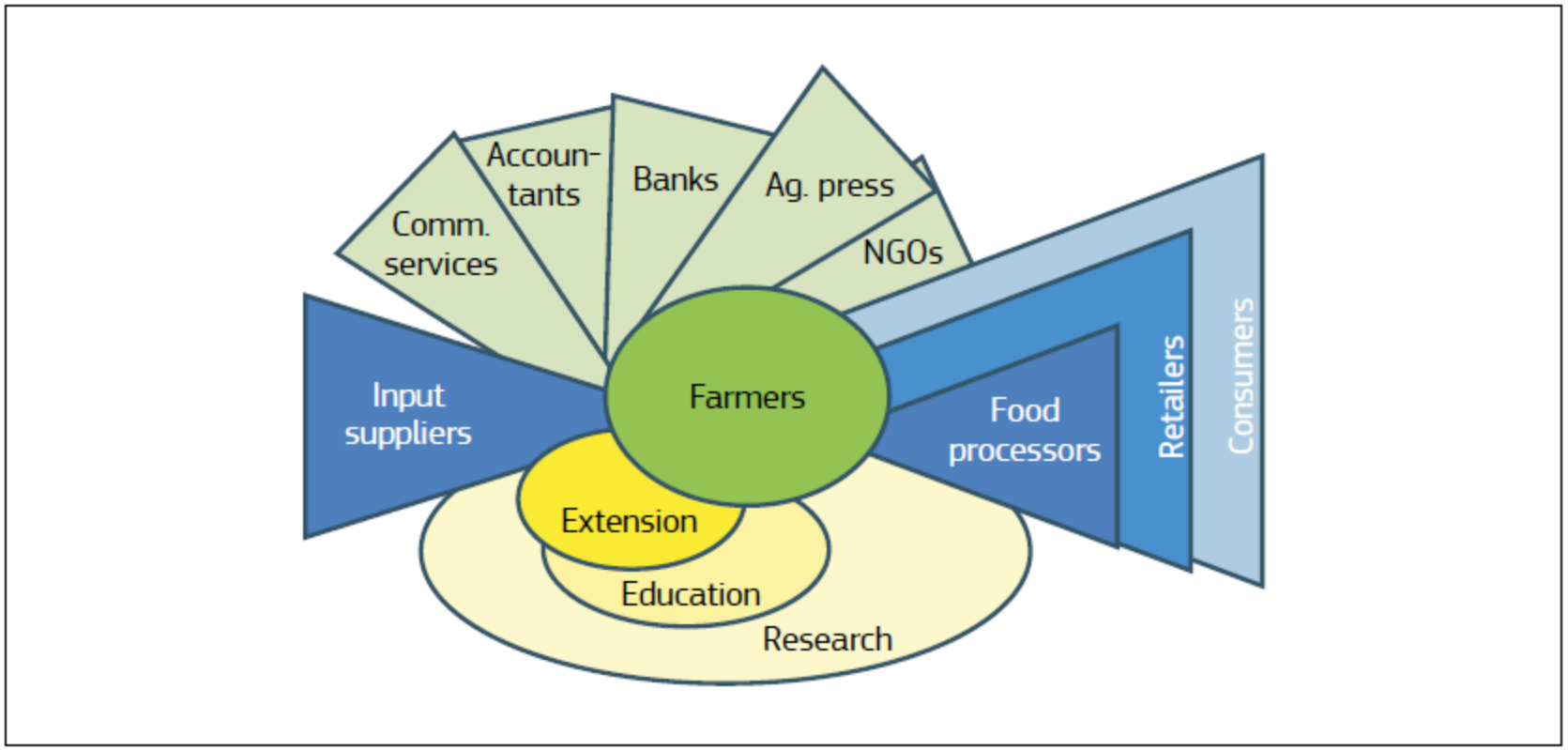
Gala

DCA in commercial scale

Gala

The Agricultural Knowledge and Innovation System

Figure S.1 Actors in the AKIS directly relevant for agricultural innovation in the food chain



Source: This project
Note: Commercial services include laboratories, veterinarians, management software, notaries, land brokers etc. Accountants have been mentioned separately as being in some countries very influential on strategic decisions

The network of agricultural research in South Tyrol