Typical APPLE farms – results 2010-2013

Hildegard Garming
Thünen Institute of Farm Economics

2nd agri benchmark Horticulture conference, San Michele all' Adige
22.-26.09.2014

Approach of *agri benchmark*

- Establish a **sustainable cooperation** between farm economists and farmers in the participating countries
- Analysis based on **typical farm approach** (farm models representing production systems, production costs, competitiveness, future development)
- **Harmonized** selection of regions, farming systems, data collection and processing across countries (standard operating procedure)
- **Feedback** with advisors and producers
- Detailed production systems with **price and quantity data**
- Comparisons by crops, not by diversified farms
- **Comparability of results**
- Analysis of developments over time: **yearly updates** of database and **annual report** on results (1st report published in August 2014)

A typical farm

- is a virtual model based of existing farms in a specific region,
- represents a major share of output for the product considered in that specific region,
- runs the regionally prevailing production system for the product considered,
- reflects the prevailing combination of enterprises, land and capital resources, type of labour organisation in specific region, and
- provides a full set of economic and physical data.

Overview of the 11 typical apple farms

	Country	Region	ha	average yield 2011, t /ha	3 top varieties
Europe	Germany	Altes Land	21	31	Elstar, Jonagold, Braeburn
		Altes Land	41	32	Elstar, Jonagold, Braeburn
		Bodensee	15	46	Jonagold, Elstar, Gala
		Sachsen	183	54	Idared, Elstar, Pinova
	Italy	Emilia-Romagna	5	49	Fuji, Pink Lady, Modi, Gala,
		Trentino	2.5	60	Red/Golden Delicious, Gala, Renetta
	Switzerland	Thurgau (2012)	6	53	Golden Delicious, Gala, Jonagold
Non - EU	Chile	El Maule	25	63	Gala, Fuji, Granny Smith
		O' Higgins	80	52	Granny Smith, Gala, Pink Lady
	South Africa	EGVV	80	53	Golden Delicious, Granny Smith, Gala
		Ceres	120	54	Red & Golden Delicious, Pink Lady

How diverse are the farms in terms of varieties?

Farm	No of varieties	Varieties						
DE _21_AL	6	Holsteiner Cox	Boskoop	Braeburn	Kanzi	Elstar		Jonagold
DE_15_B	6	Fuji	Gala	Braeburn	Kanzi	Elstar	Golden Delicious	Jonagold
DE_183_S	11	Cox Orange	Gala, Boskoop	Braeburn	Idared Pinova	Elstar	Golden Delicious	Jonagold Jonagored
IT_5_ER	4	Fuji	Gala	Modi	Pink Lady			
IT_2.5_T	3	Fuji	Gala				Golden/Red Delicious	
CL_25_EM	3	Fuji	Gala			Granny Smith		
CL_80_OH	3		Gala		Pink Lady	Granny Smith		
ZA_80_EGVV	7	Fuji	Gala	Braeburn	Pink Lady	Granny Smith	Golden/Red Delicious	Sun-downer
ZA_120_C	6	Fuji	Gala	Braeburn	Pink Lady	Granny Smith	Golden/Red Delicious	

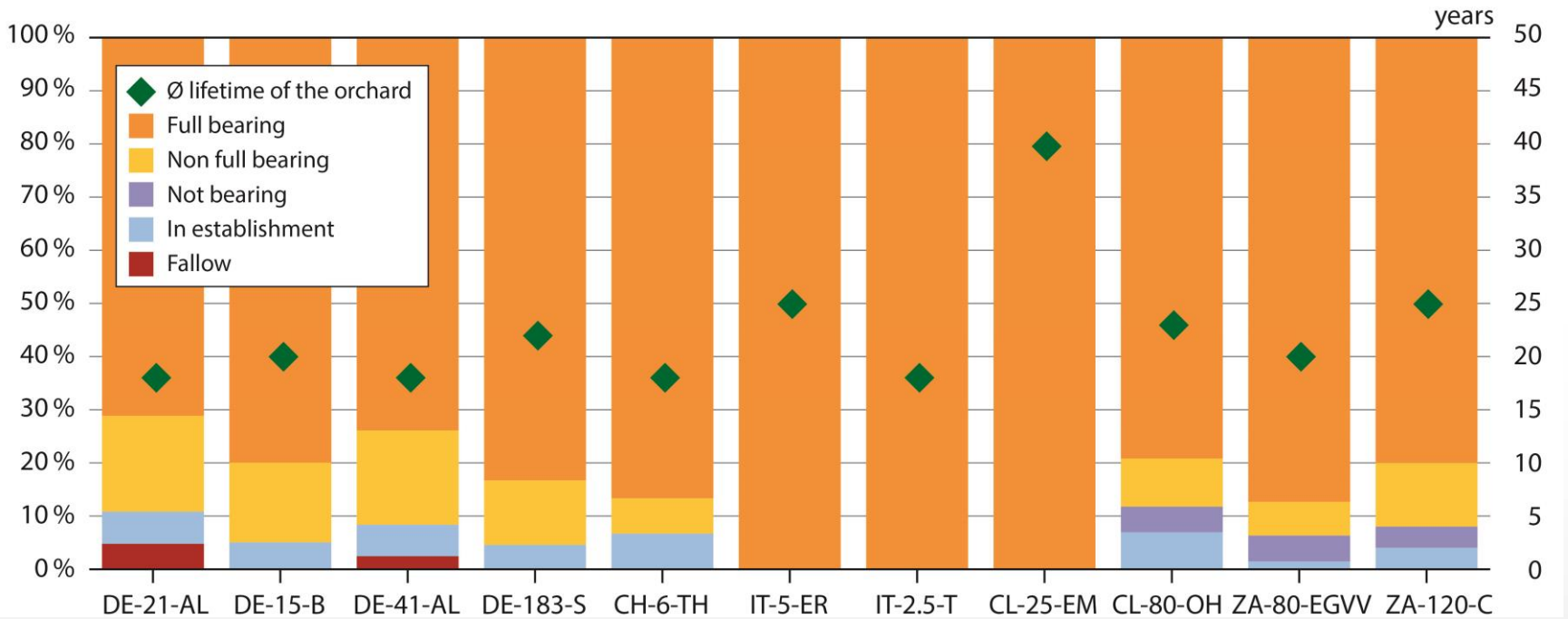
Machine aided apple harvest in Sachsen

Chile young plantations:
Change of variety through grafting

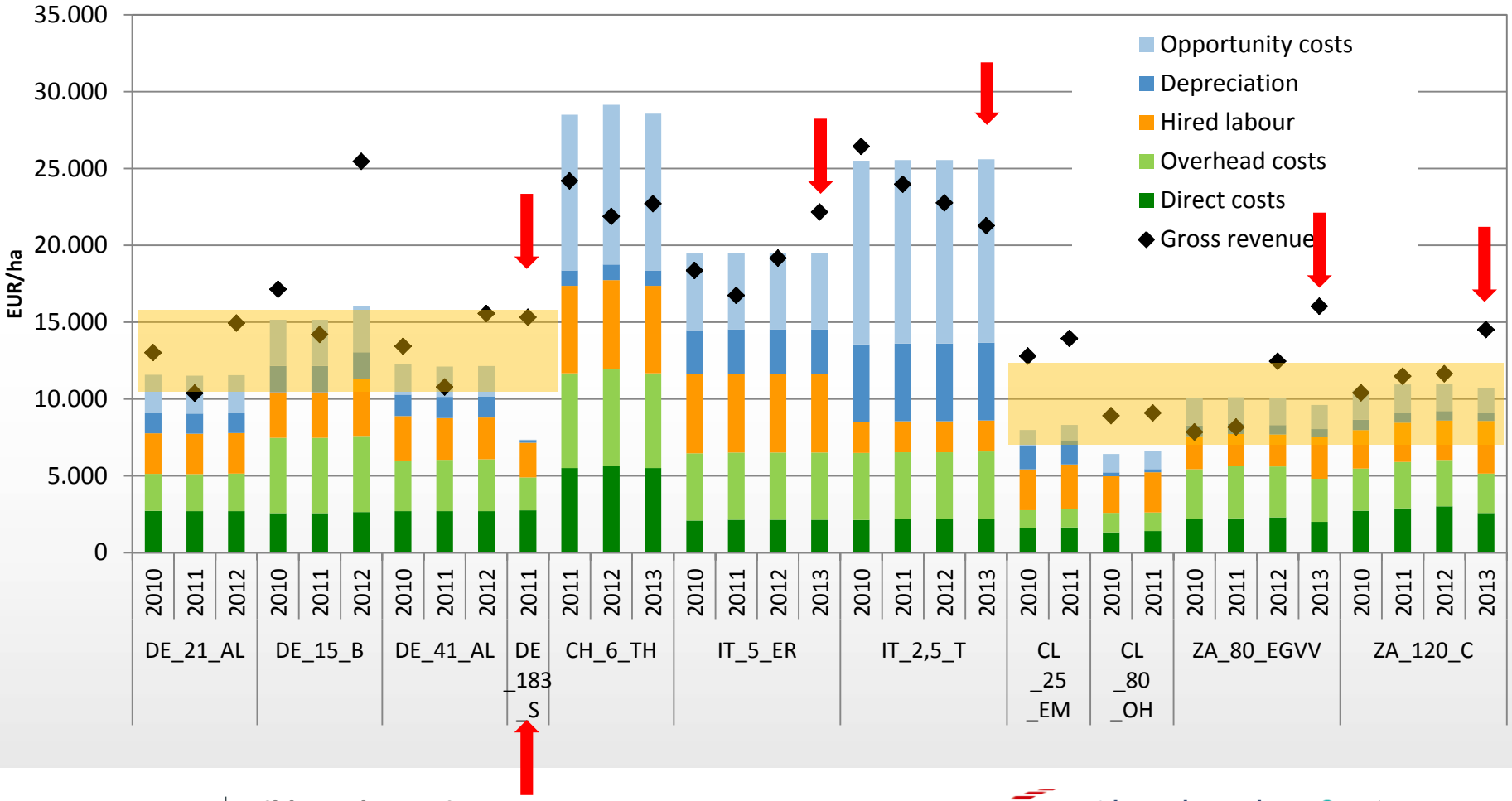
High plant density (2,100 trees/ha)

Medium plant density (1,600 trees/ha)

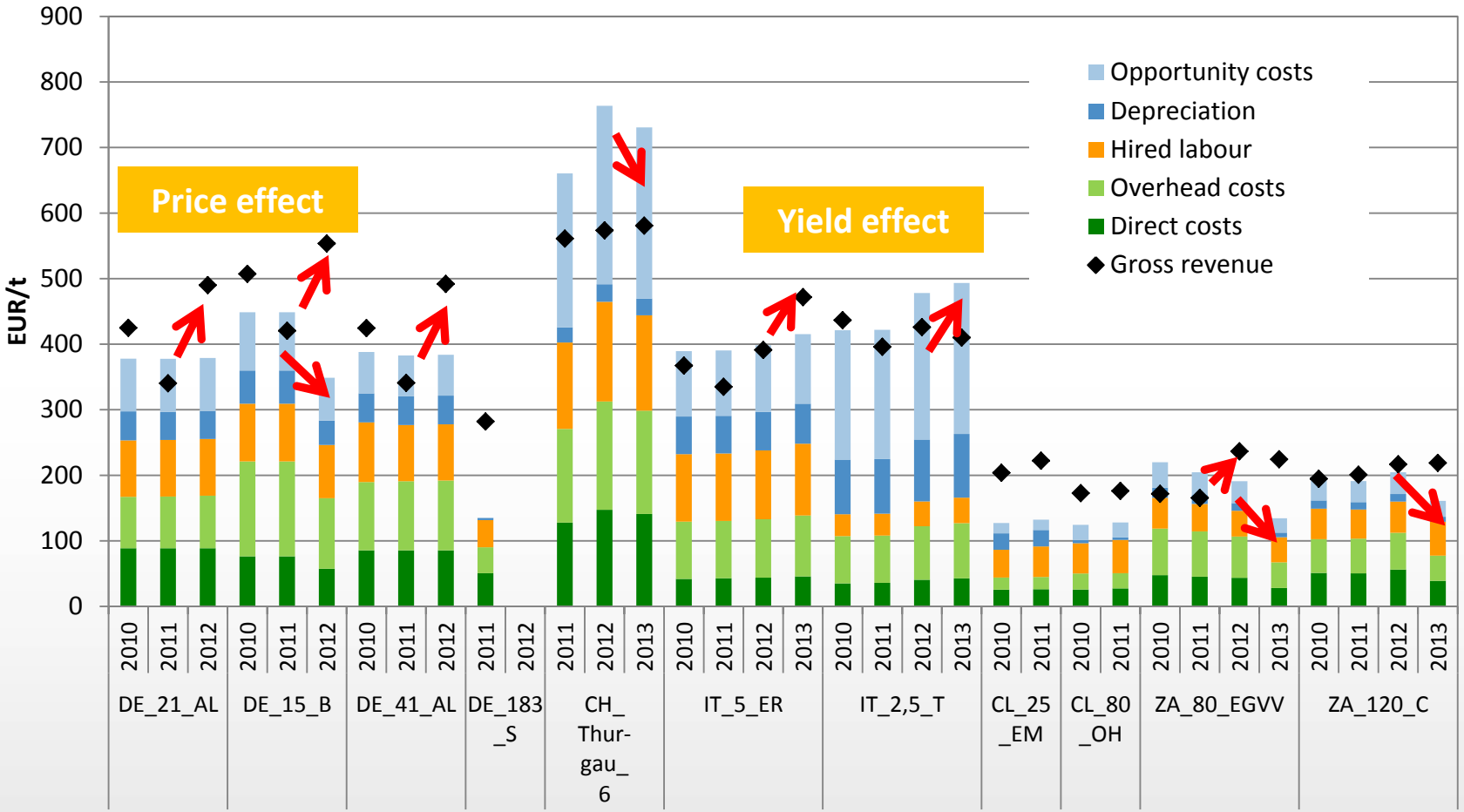
Age structure of the orchards



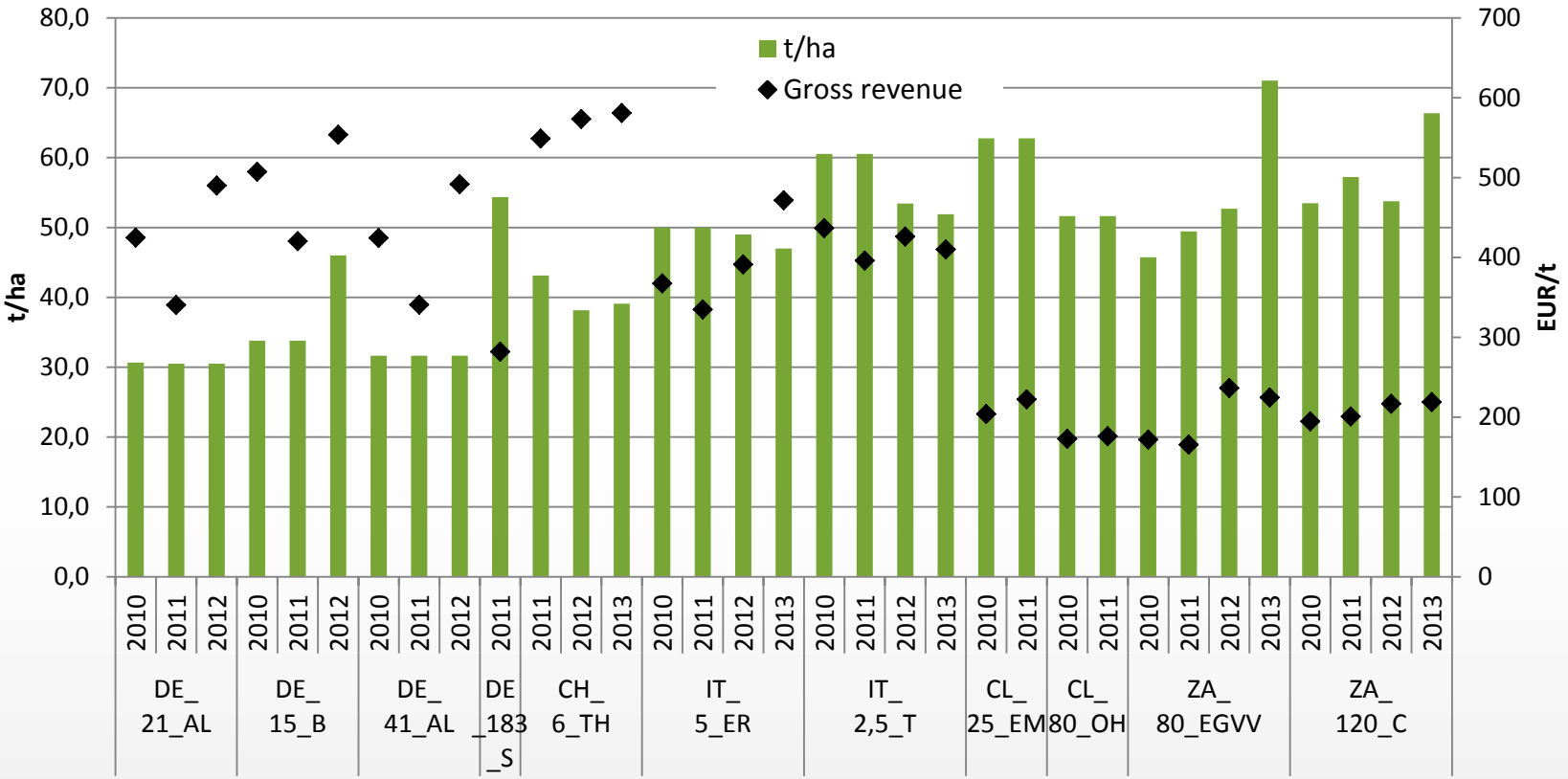
Total cost of production and revenues, Euro per ha



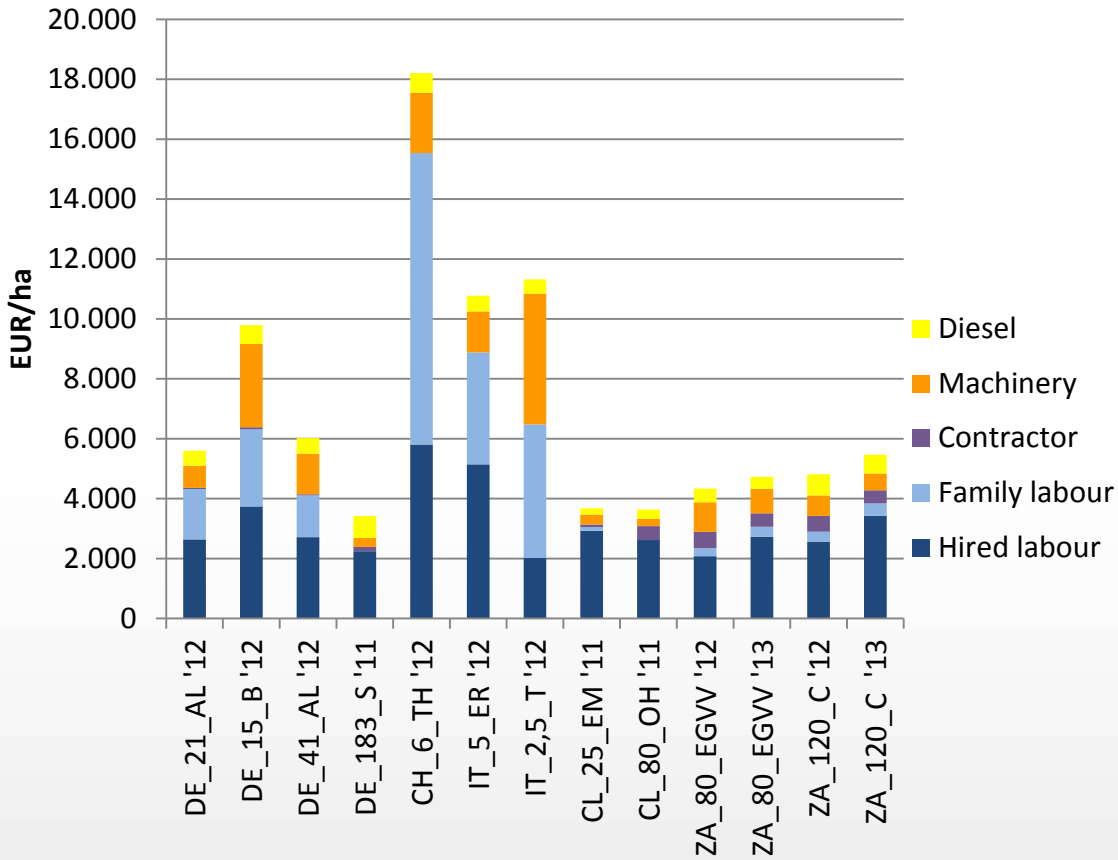
Total cost of production and revenues, Euro per ton



Yields and average prices, 2010 – 2013



Operating costs, 2011/2012/2013



Differences in wage rates and in use of machinery

Economies of scale in machinery use

Wages in South Africa 2013:

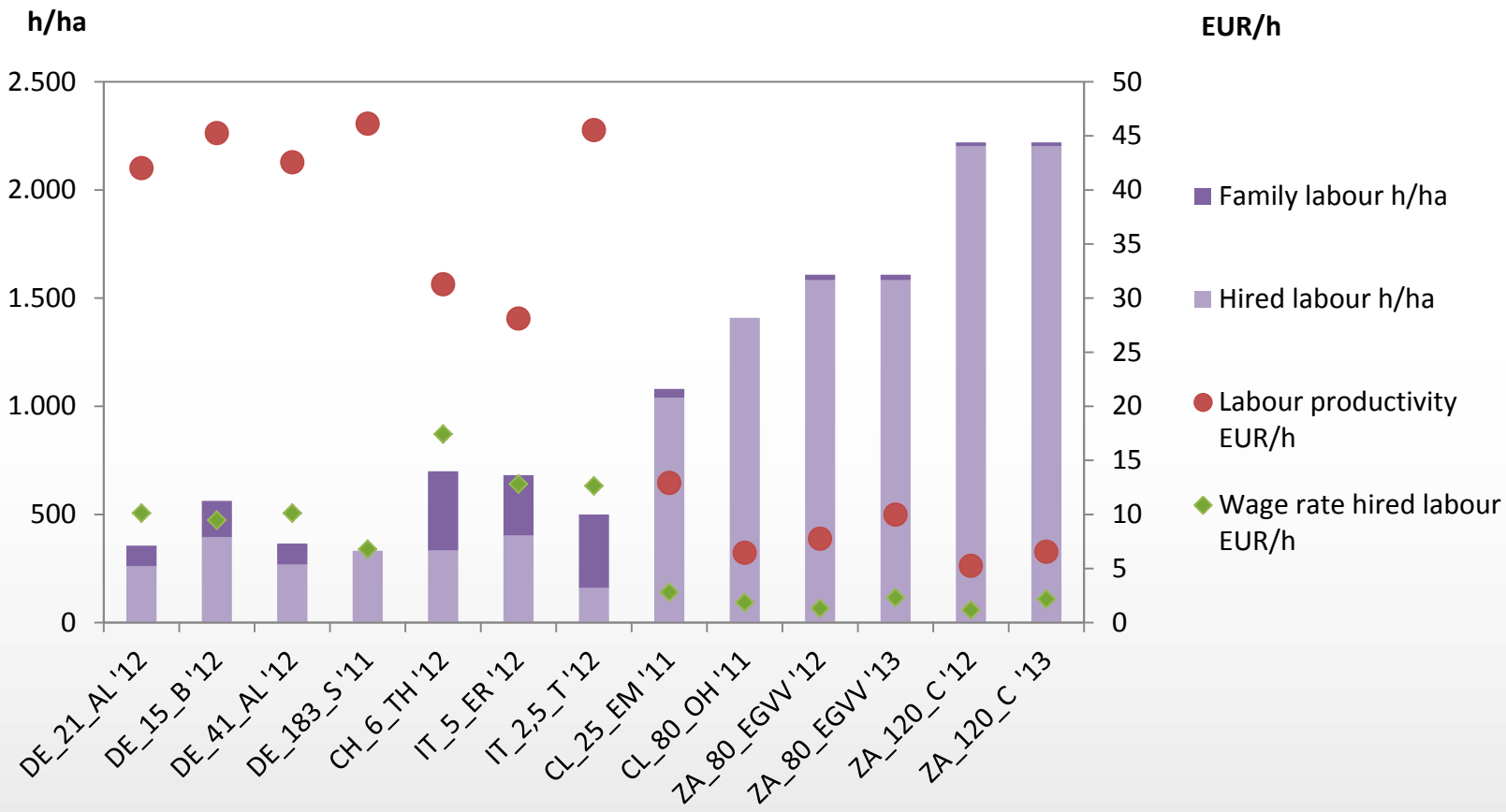
- Seasonal labour increased by 75%
- Permanent labour increased by 51%
- Impact on production costs (EUR) low → effect of exchange rate

Impact of exchange rate

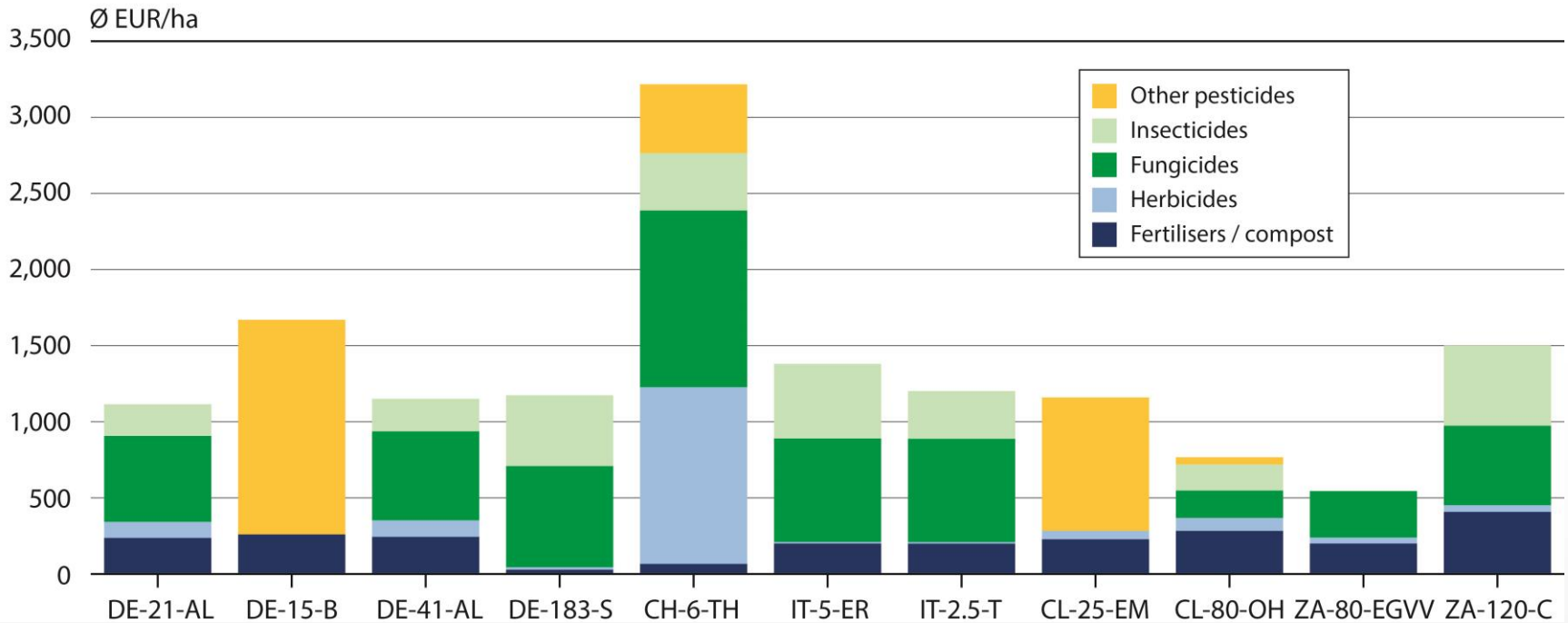
National currency = ... EUR					
Country and Currency		2010	2011	2012	2013
European Union	EUR	1	1	1	1
Australia	AUD	0.6921	0.7417	0.8054	0.7287
Chile	CLP	0.0015	0.0015	0.0016	0.0015
Switzerland	CHF		0.8123	0.8296	0.8122
South Africa	ZAR	0.1032	0.0993	0.0948	0.0781

21 % difference!

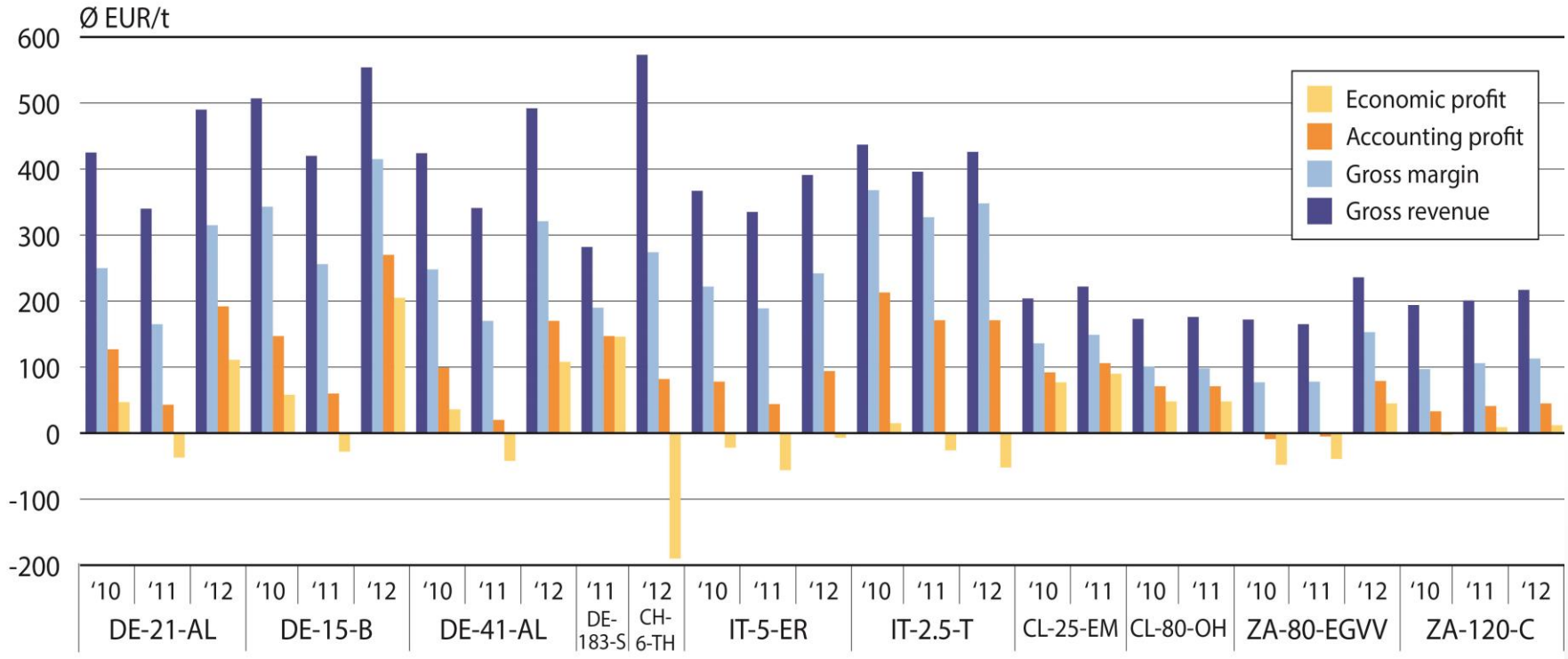
Labour costs and productivity, 2011/2012/2013



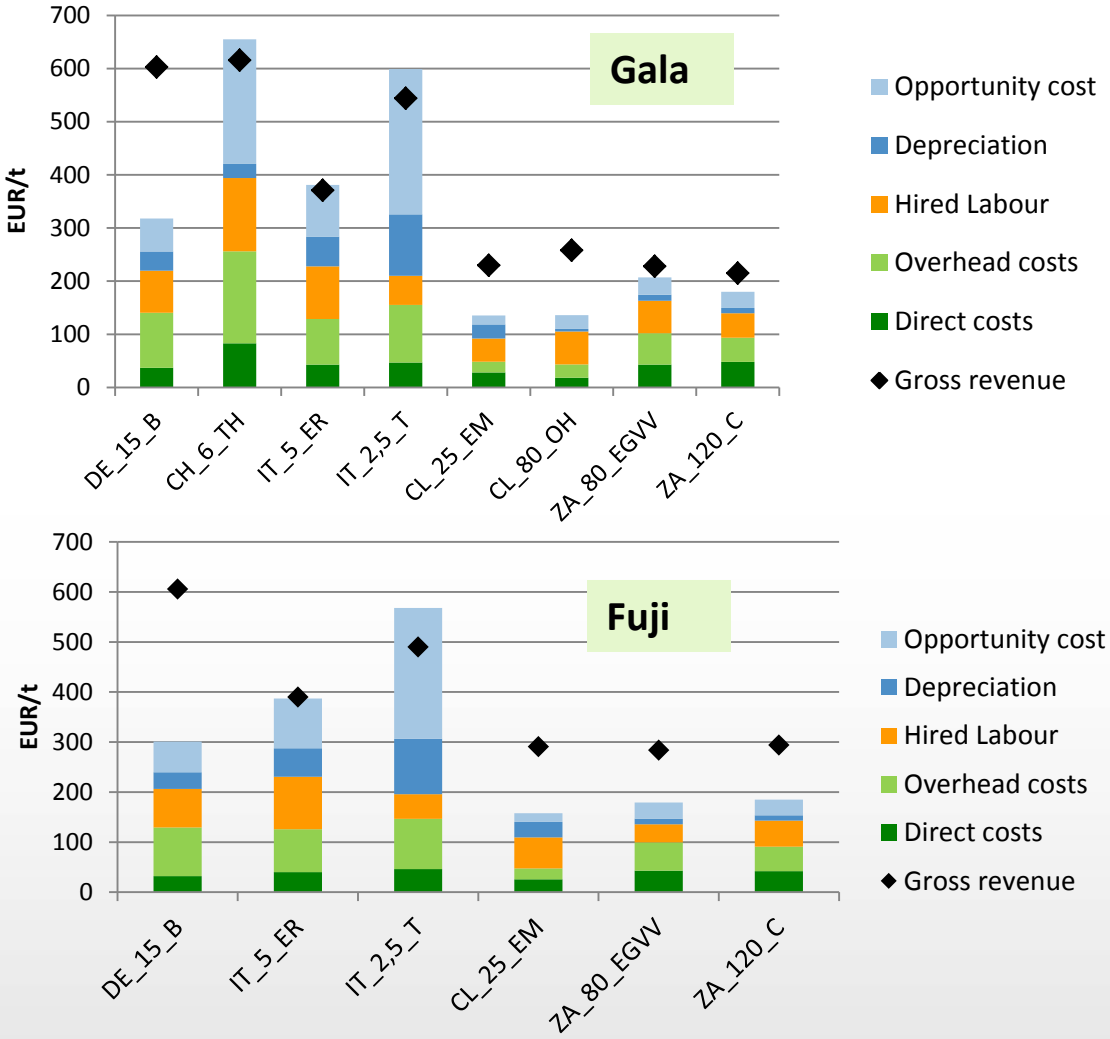
Input costs, Euro / ha, 2012



Profitability of apple production, 2010-2012



How profitable are different varieties? Cost and revenues for Fuji and Gala in 2012 - *€/t*



- Internationally traded – high priced varieties
- Cost differences mainly due to yield level
- Fuji – higher yields and lower costs than Gala

Conclusions and Outlook

- Detailed insights into cost structure and revenues in apple production
- How profitable is apple production?
  - 2012 and 2013 were rather good in most regions
  - Harvest of 2014: what will happen/is happening to prices?

Outlook:

- Complete data update (Harvest 2013)
- Next country to include: Poland (contacts established),
- Chile: find additional partner (University of Santiago, Chile)
- New contacts we are searching for: USA, Turkey, (China)

Discussion: Developments and Trends in apple/fruit production

Production technology

e.g. Mechanization – harvest, thinning, pruning

Pests and diseases

e.g. new pests, new regulations or requirements for pest control,

Development of concepts – sustainable or regional production

Market trends

Impact of policies