



ESA

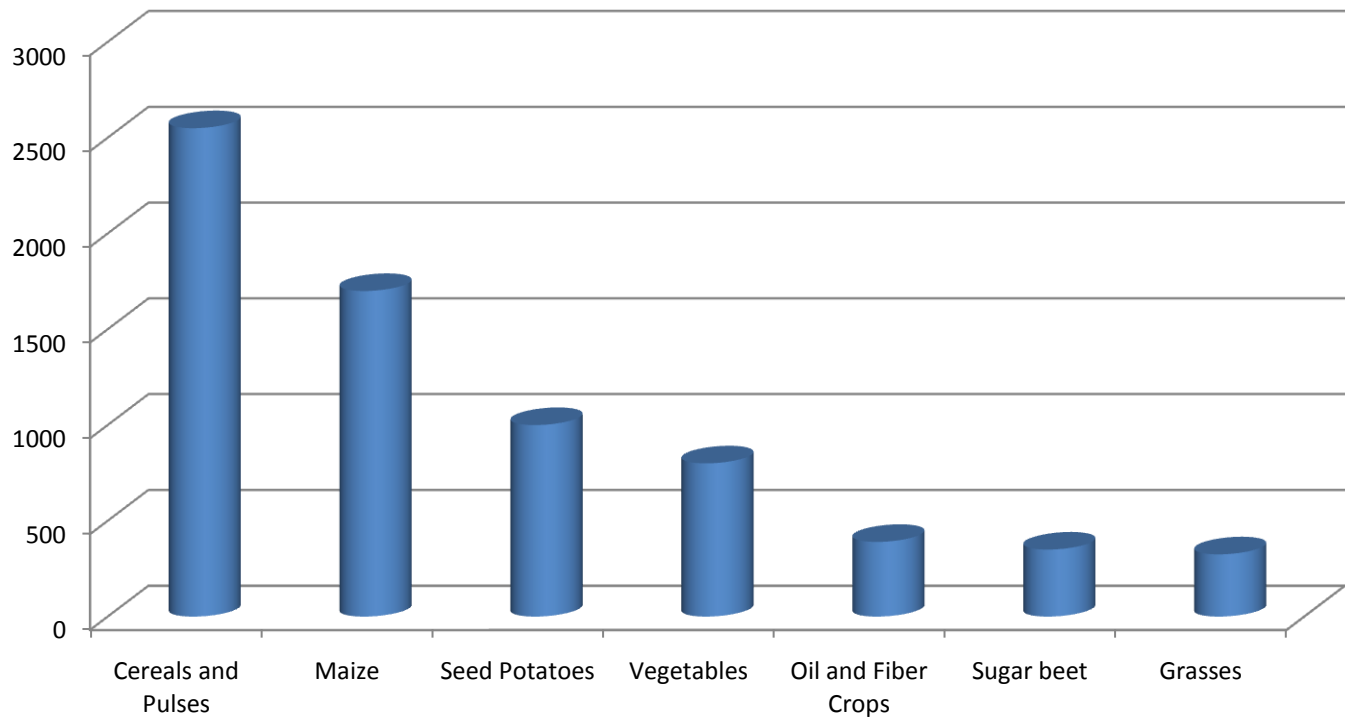
European Seed Association

Innovation in plant breeding

Christoph Amberger
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European Seed Association

EU seed industry facts

Total value EU Seed Industry (6.8 bln €)



Innovation and impact

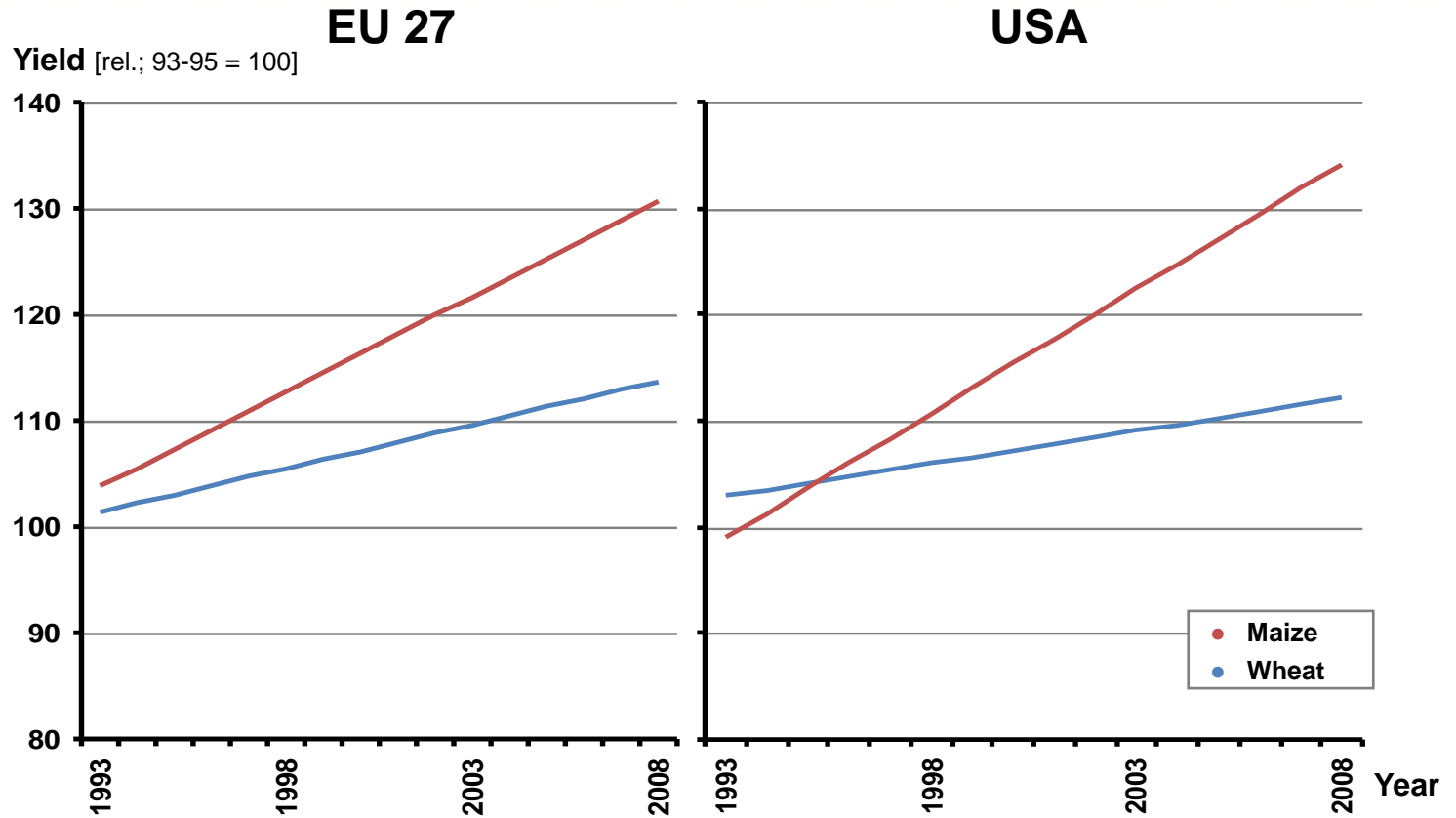
Value seed market EU	€ 6.8 bn
Annual R&D spending of seed industry EU	ca. 15% (of t.o.) = € 1 bn
Employment in seed industry EU	ca 52.000

Value seed market EU	€ 6.8 bn
Farm gate value agric. products EU	> € 70 bn
Value processed agric. Products EU	> € 700 bn



Factors determining innovation

Yield development in maize and wheat in the EU and US



Source: FAOSTAT; own calculations, 1993-1995 = 100



Conclusions

- Progress in farming depends on improved genetics
- Improved genetics result from high R&D investment
- R&D investments need a fair return
- Return on investment depends on supportive regulatory framework in
 - R&D support
 - Effective protection and enforcement of IPRs

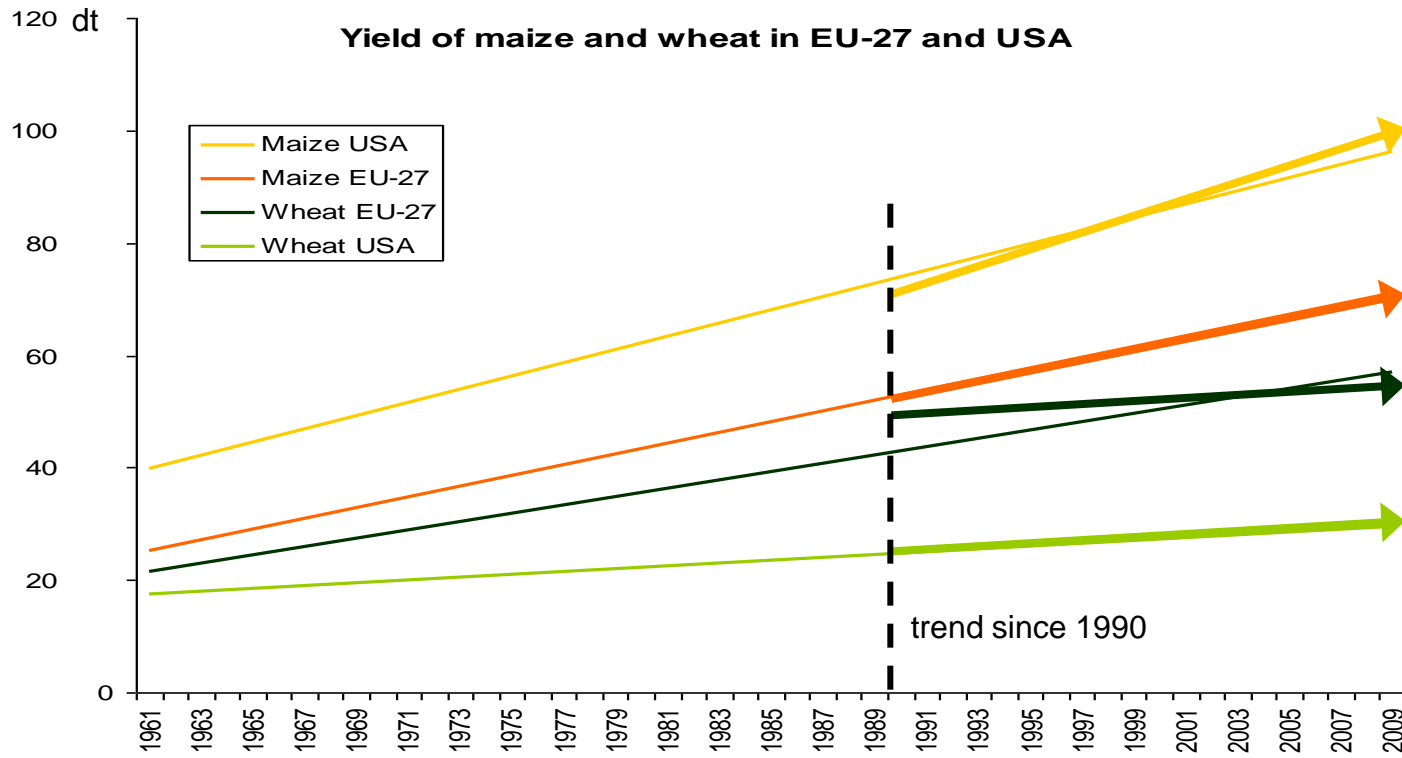
Where the necessary return on investment in breeding can not be achieved due to ineffective rules for enforcement of IPRs, innovation declines



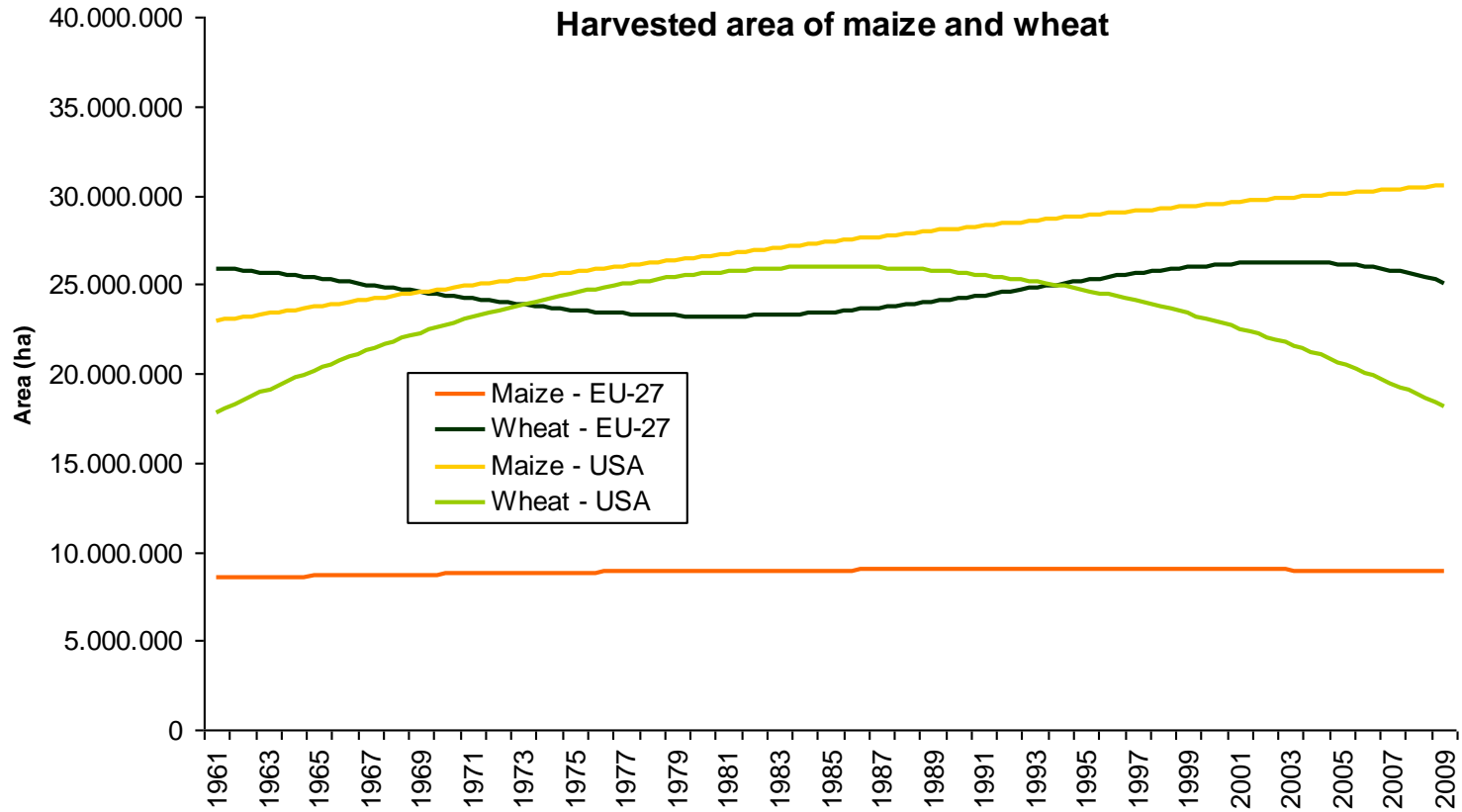
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	EU-27		USA	
	wheat	maize	wheat	maize
yield level	1961: 18,6 dt 2009: 54,1 dt	1961: 21,0 dt 2009: 69,2 dt	1961: 16,1 dt 2009: 29,9 dt	1961: 39,2 dt 2009: 103,4 dt
acreage	'61: 24,7 mio ha '09: 25,6 mio ha	'61: 8,8 mio ha '09: 8,4 mio ha	'61: 20,9 mio ha '09: 20,2 mio ha	'61: 23,3 mio ha '09: 32,2 mio ha
global acreage	wheat: 1961: 204,2 mio ha wheat: 2009: 225,4 mio ha		maize: 1961: 105,6 mio ha maize: 2009: 159,5 mio ha	
global R&D	Capturing value (maize = \$ 5.1 billion / wheat = \$ 735 million) Source: (esa_08.0724) Kellye Eversole, IWGSC, ESA Annual Meeting, 14.10.2008			

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