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Productivity in agriculture of Ukraine and other CIS

Roman Slaston, Alex Lissitsa

Selected Paper prepared for presentation at the International Agricultural Trade Research Consortium's (IATRC's) 2013 Symposium: Productivity and Its Impacts on Global Trade, June 2-4, 2013, Seville, Spain

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Ukrainian**Agribusiness**Club

Productivity in agriculture of Ukraine and other CIS

Roman Slaston, Alex Lissitsa

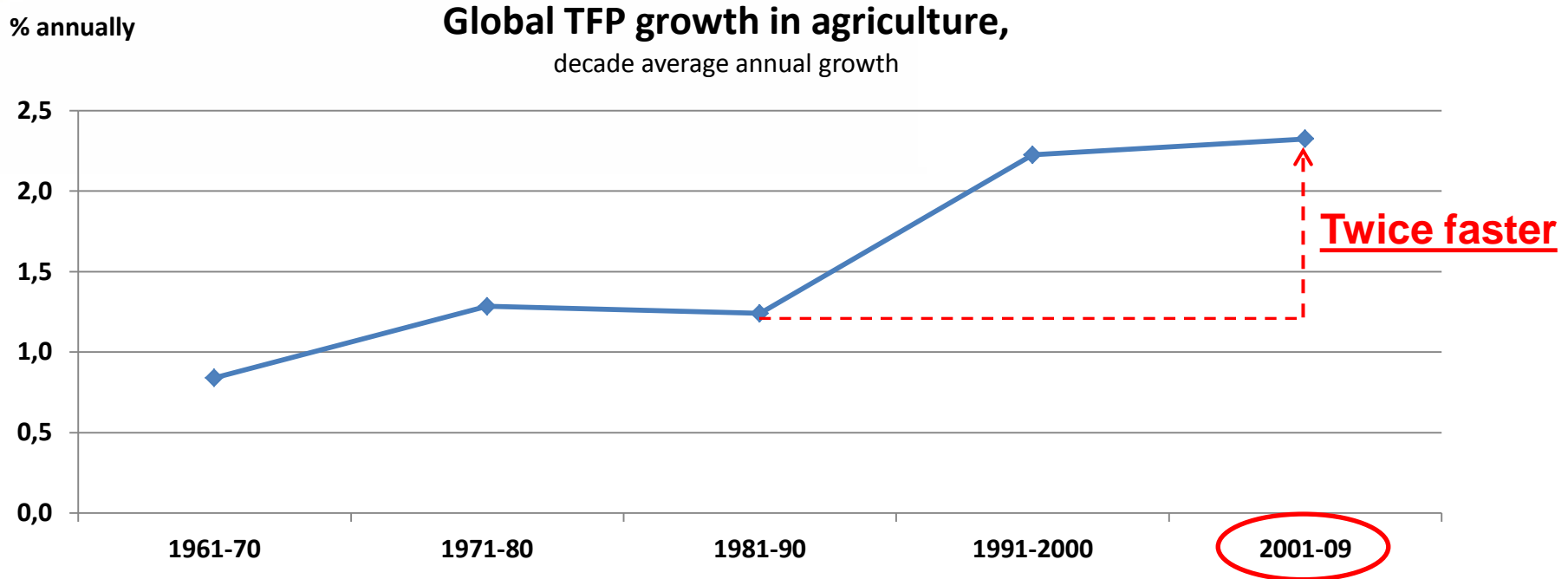


Productivity and Efficiency and their measurement

- Productivity is a major concept in economics, but there is no unique approach
- Productivity as ratio of output (produced) over the resources used (input) in the production process
 - partial productivity
 - Land
 - Labor
 - total factor productivity
 - Farm efficiency



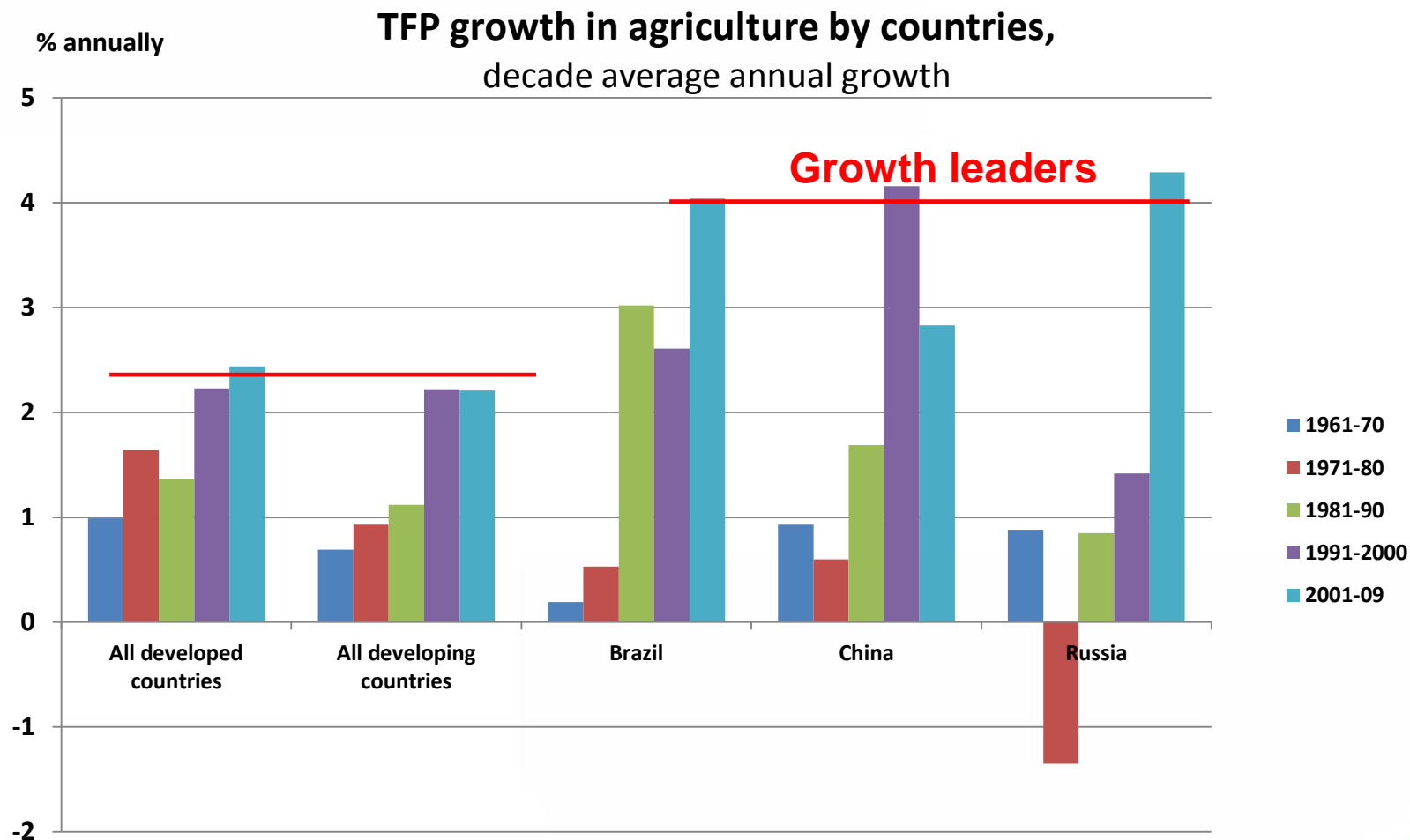
Global Agricultural Productivity



Efficiency increase **As result of**
& Technological progress



Global Agricultural Productivity by Regions





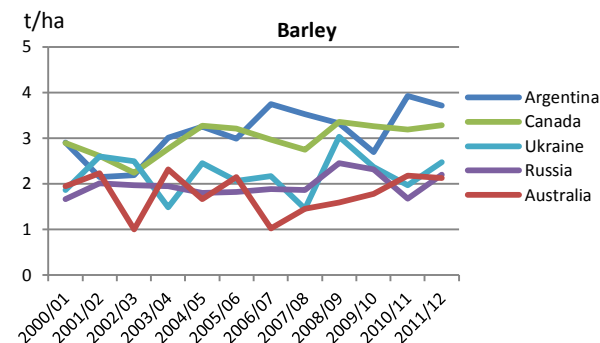
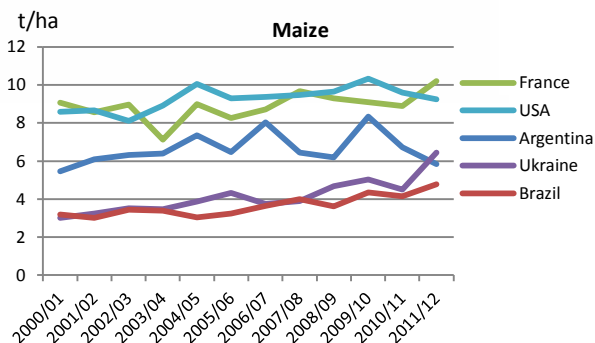
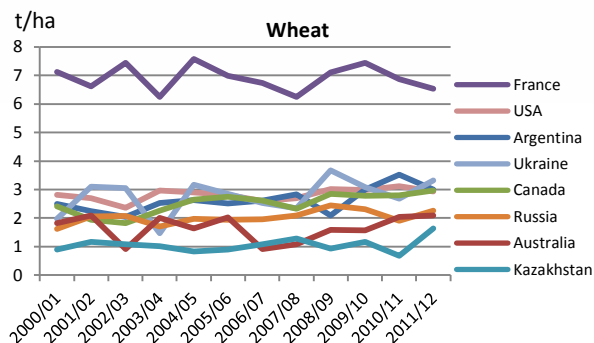
Land productivity: Yields



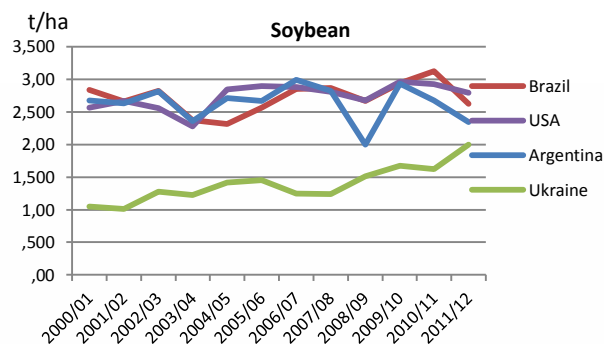
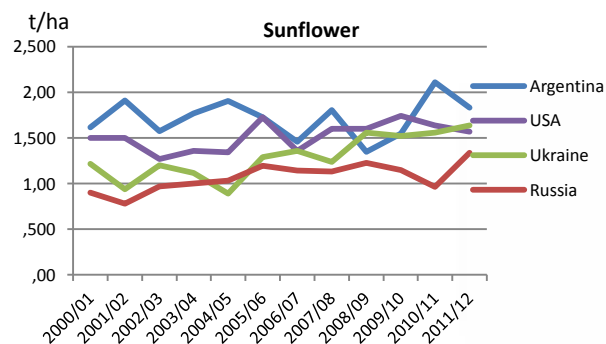


Yield dynamics

of major crops in major exporting countries



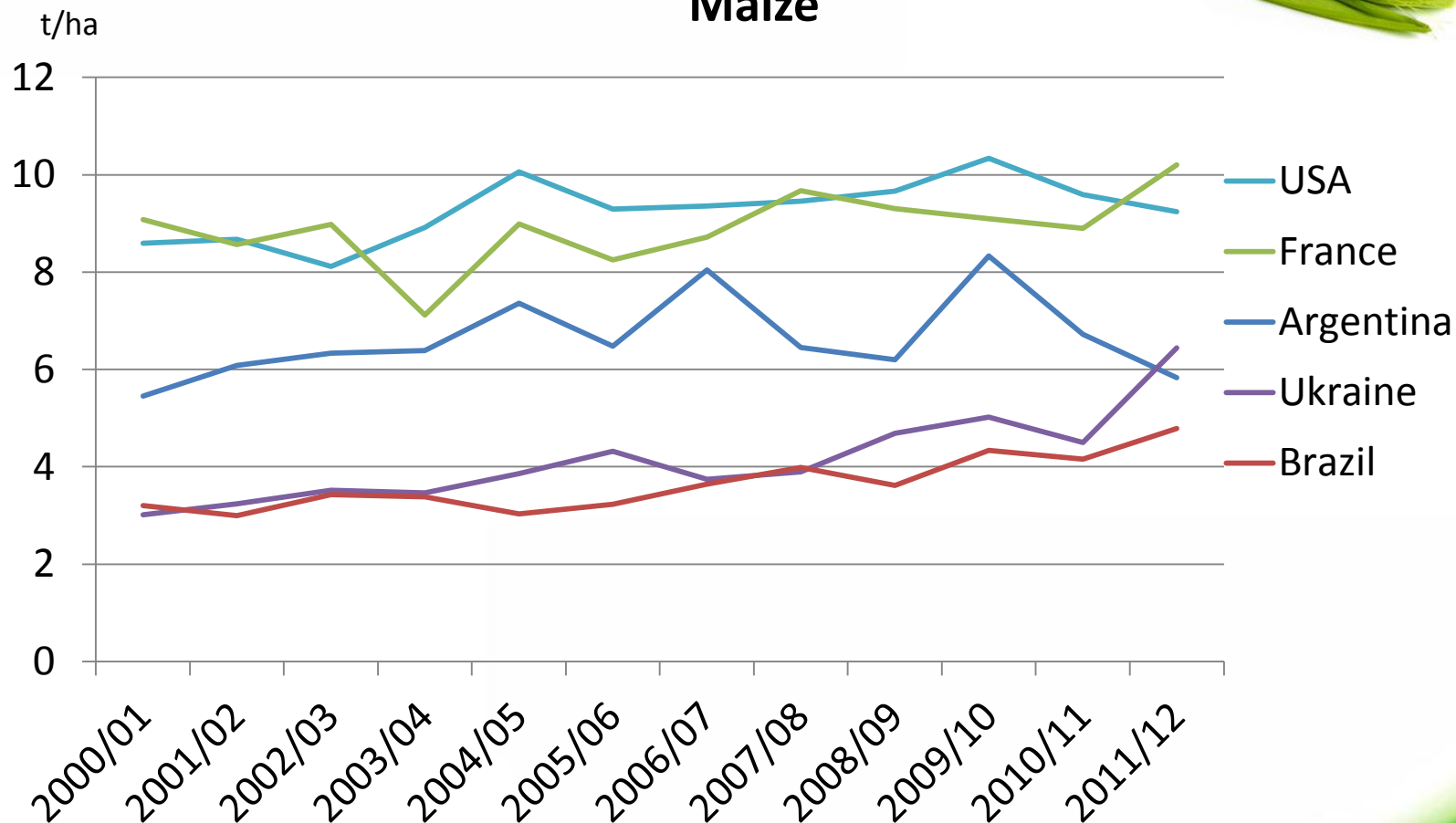
Let's look in more detail!



Yield dynamics



Maize

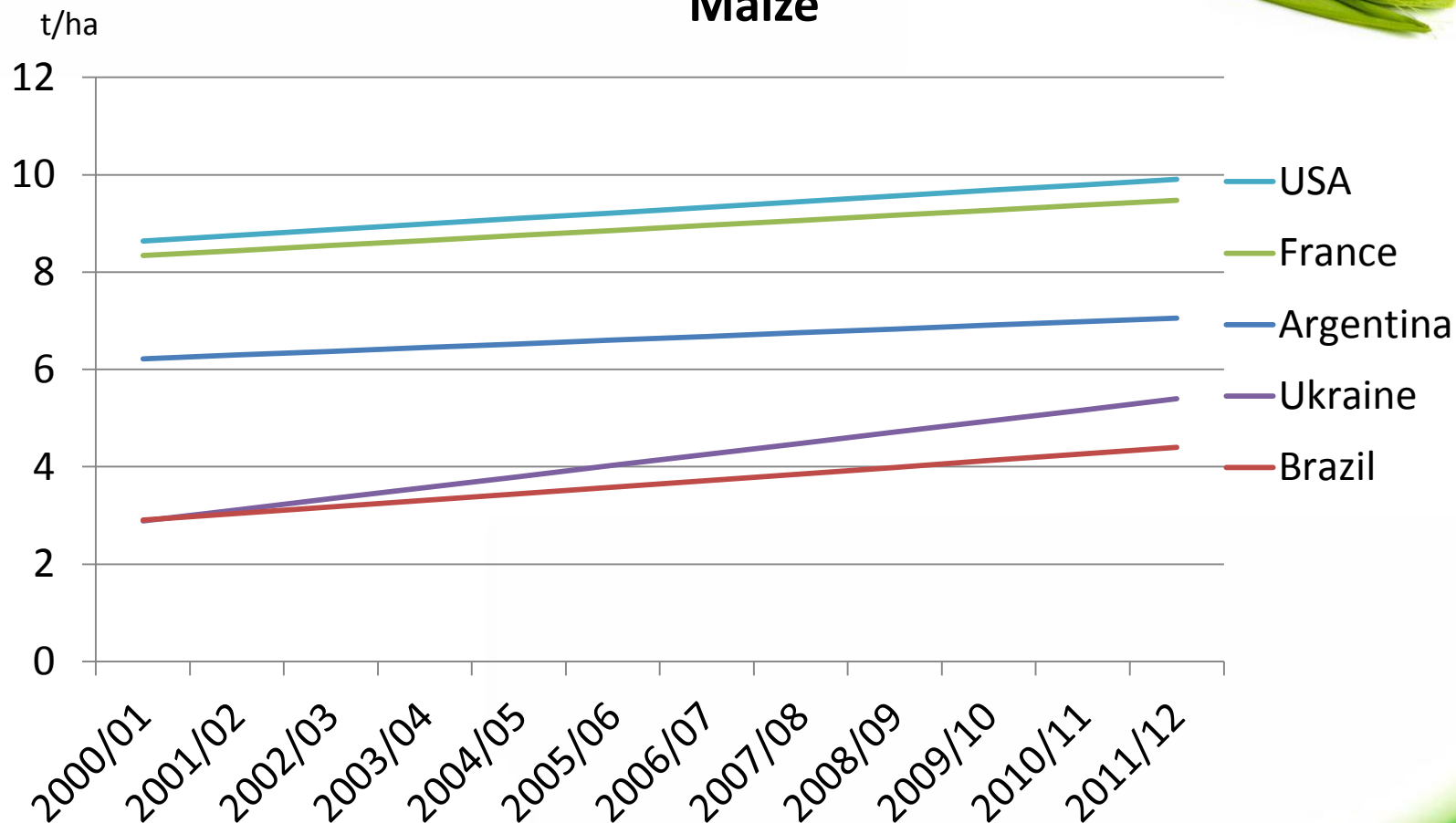




Yield trends



Maize

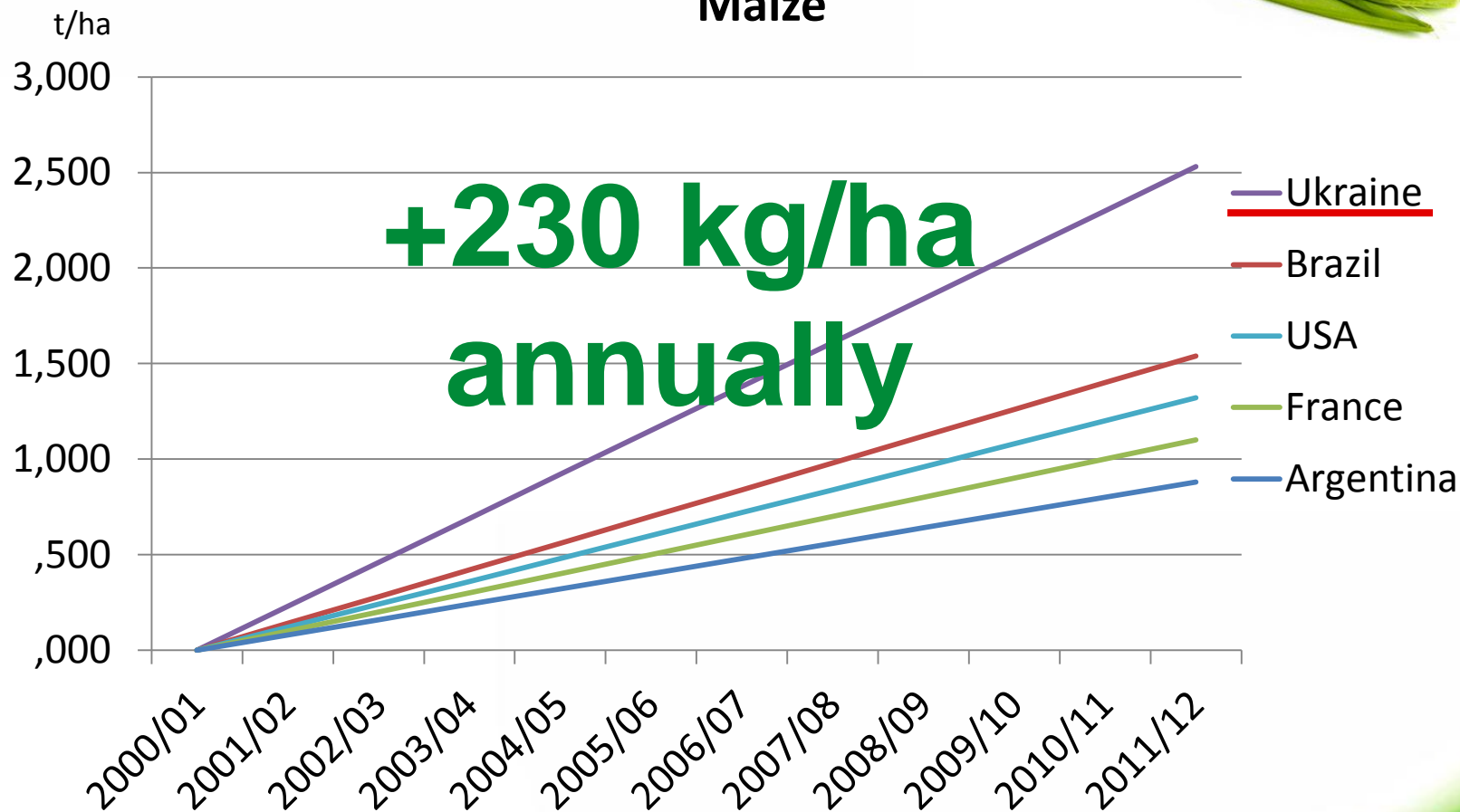




Yield growth



Maize

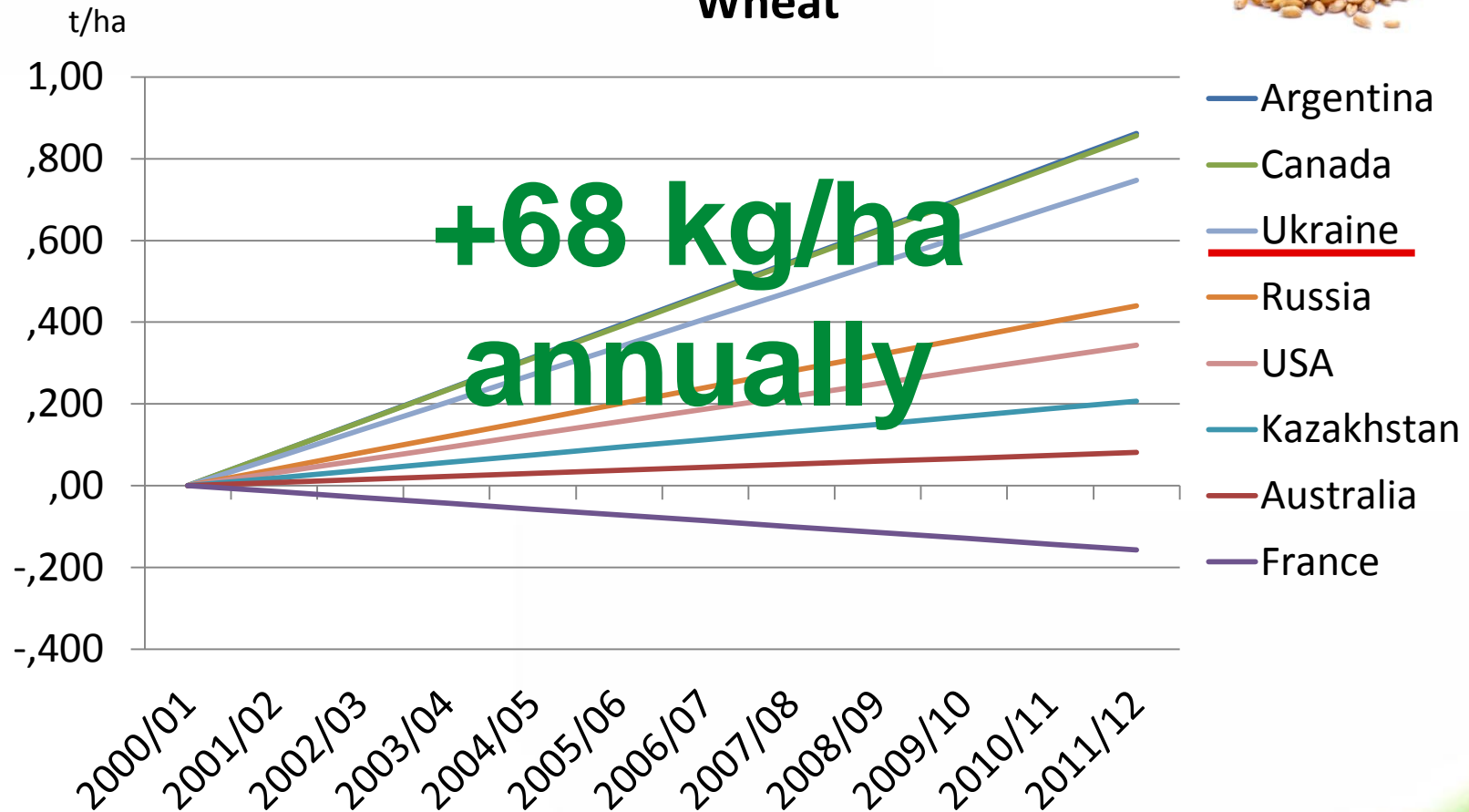




Yield growth



Wheat

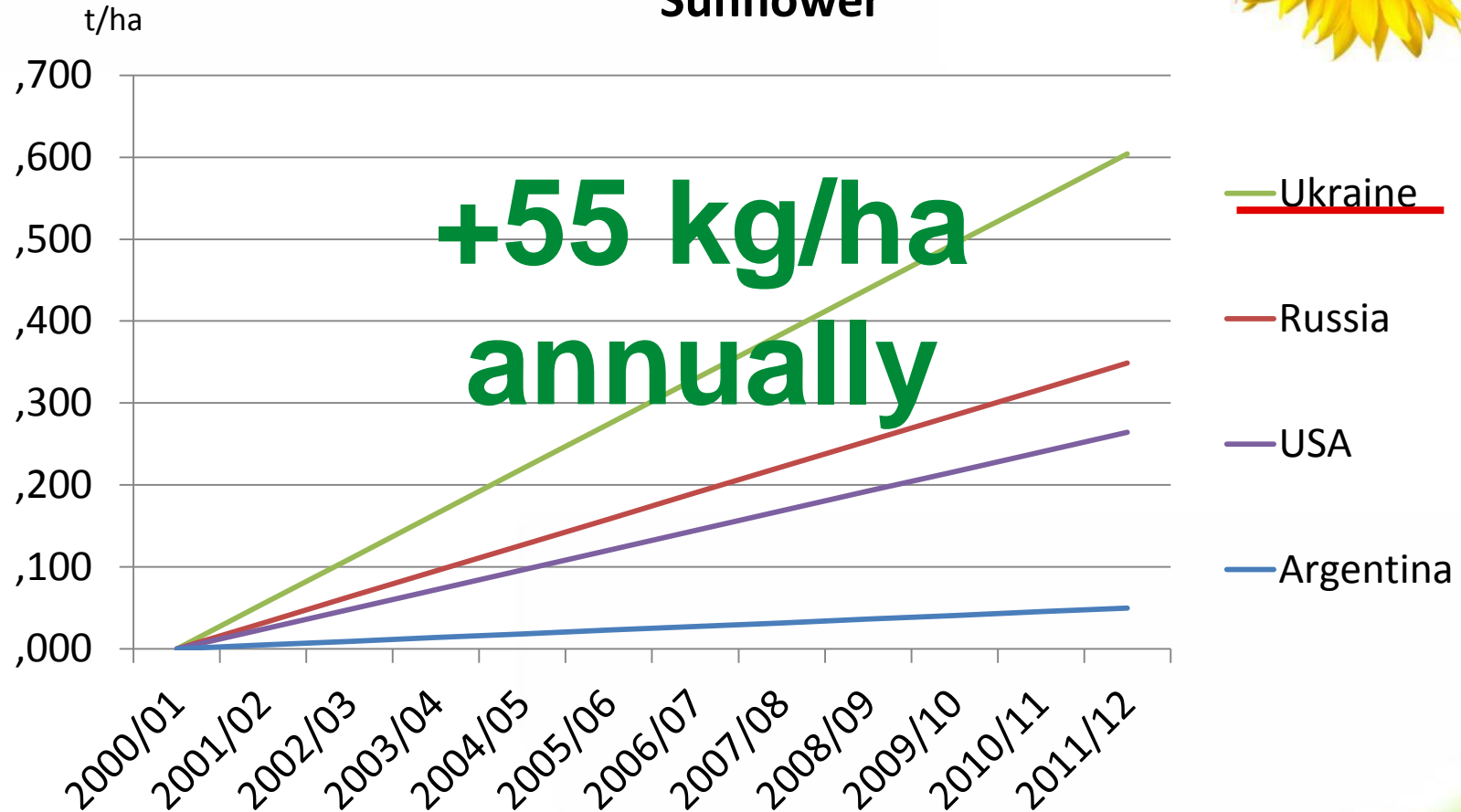




Yield growth



Sunflower

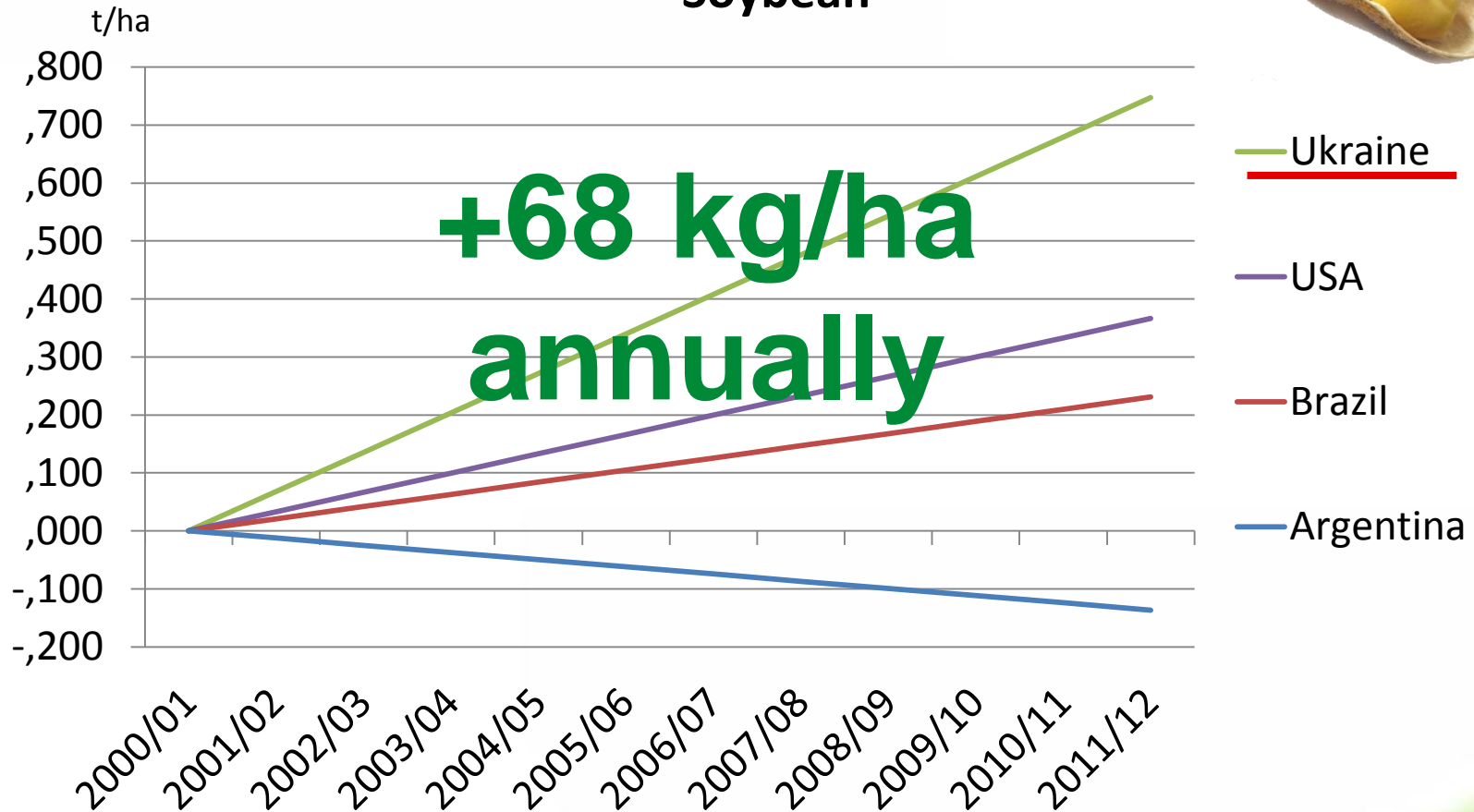




Yield growth

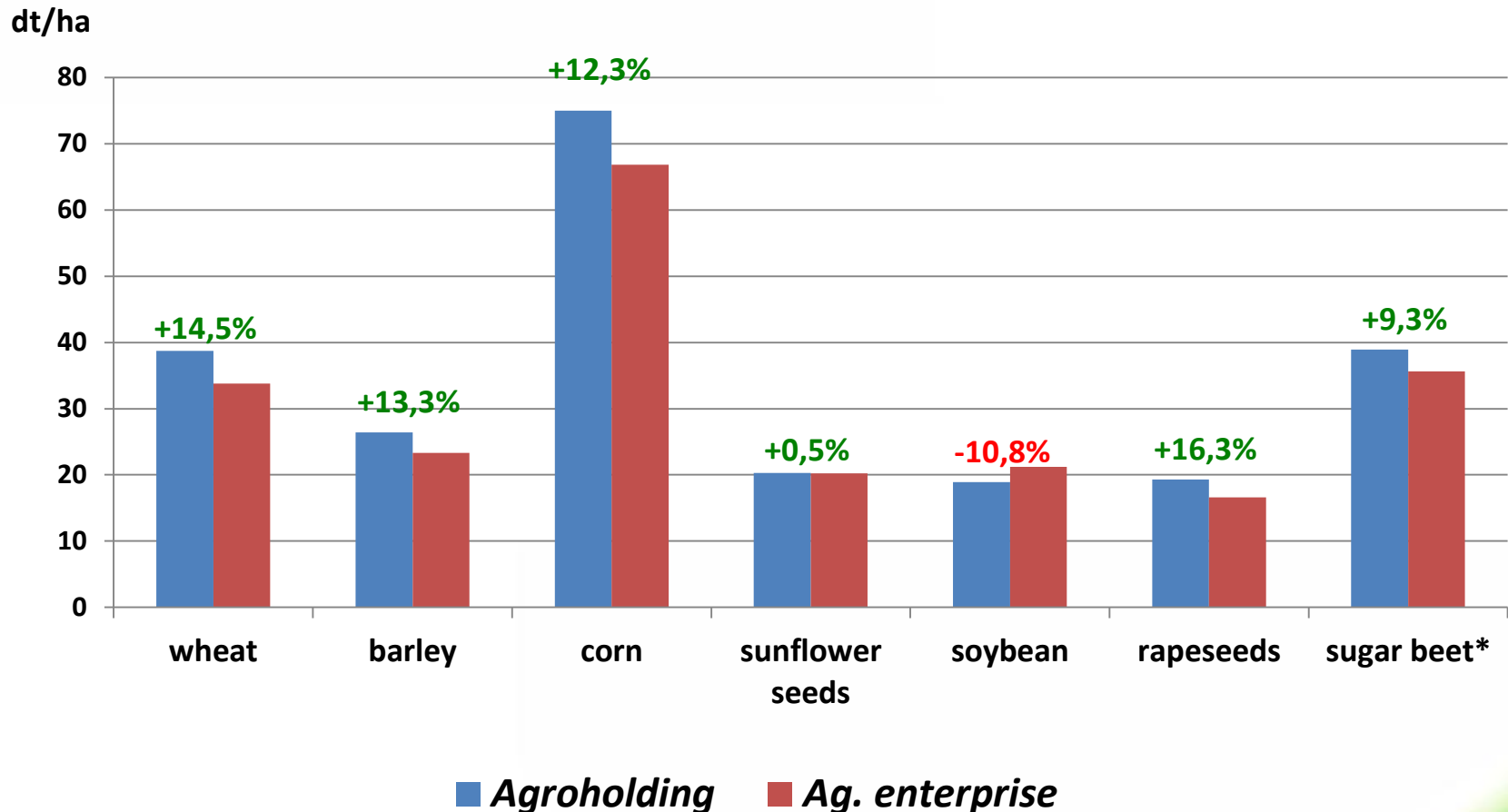


Soybean





Yields in Ukraine: agriholdings vs. medium-size agricultural enterprises



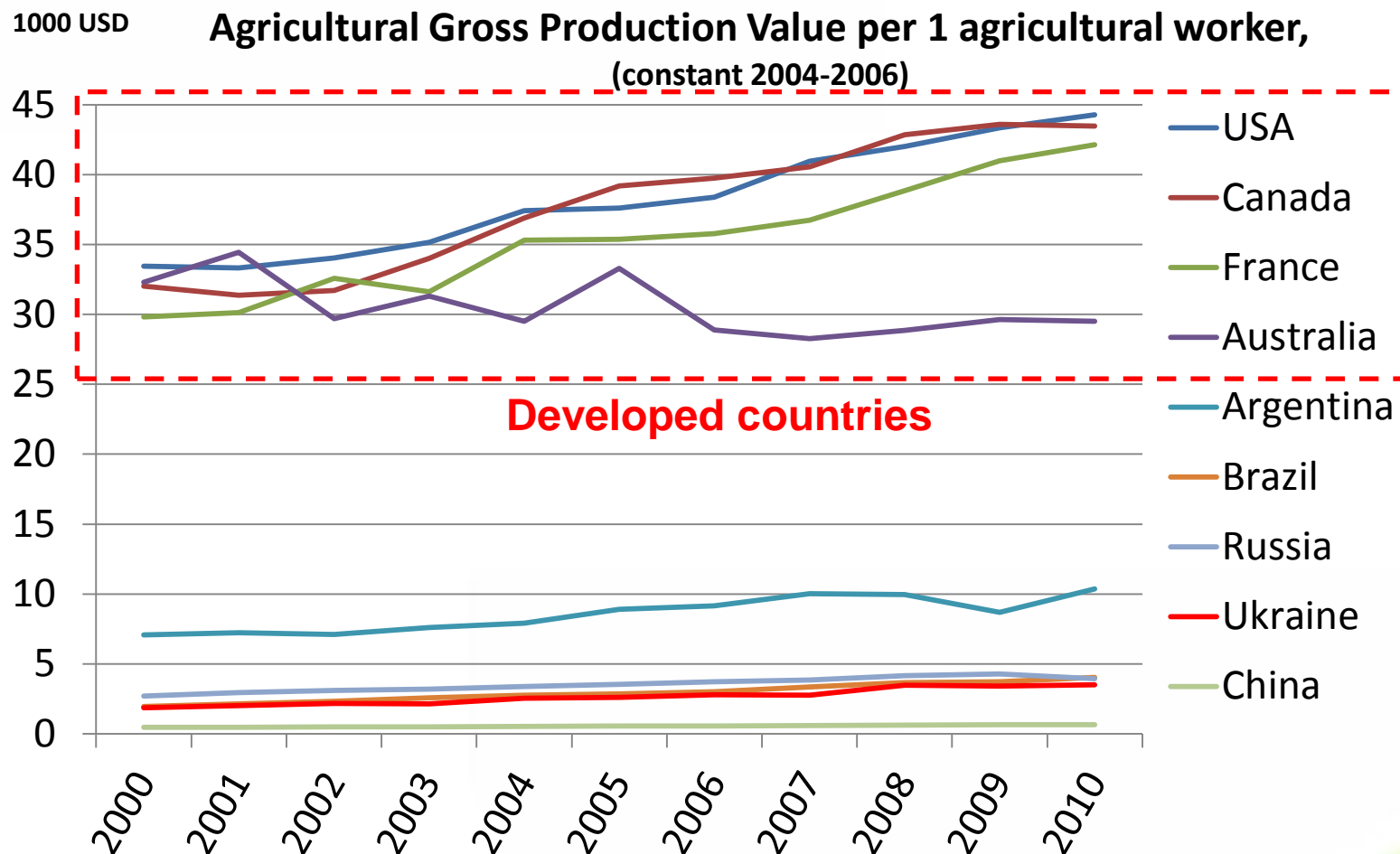


Labor productivity



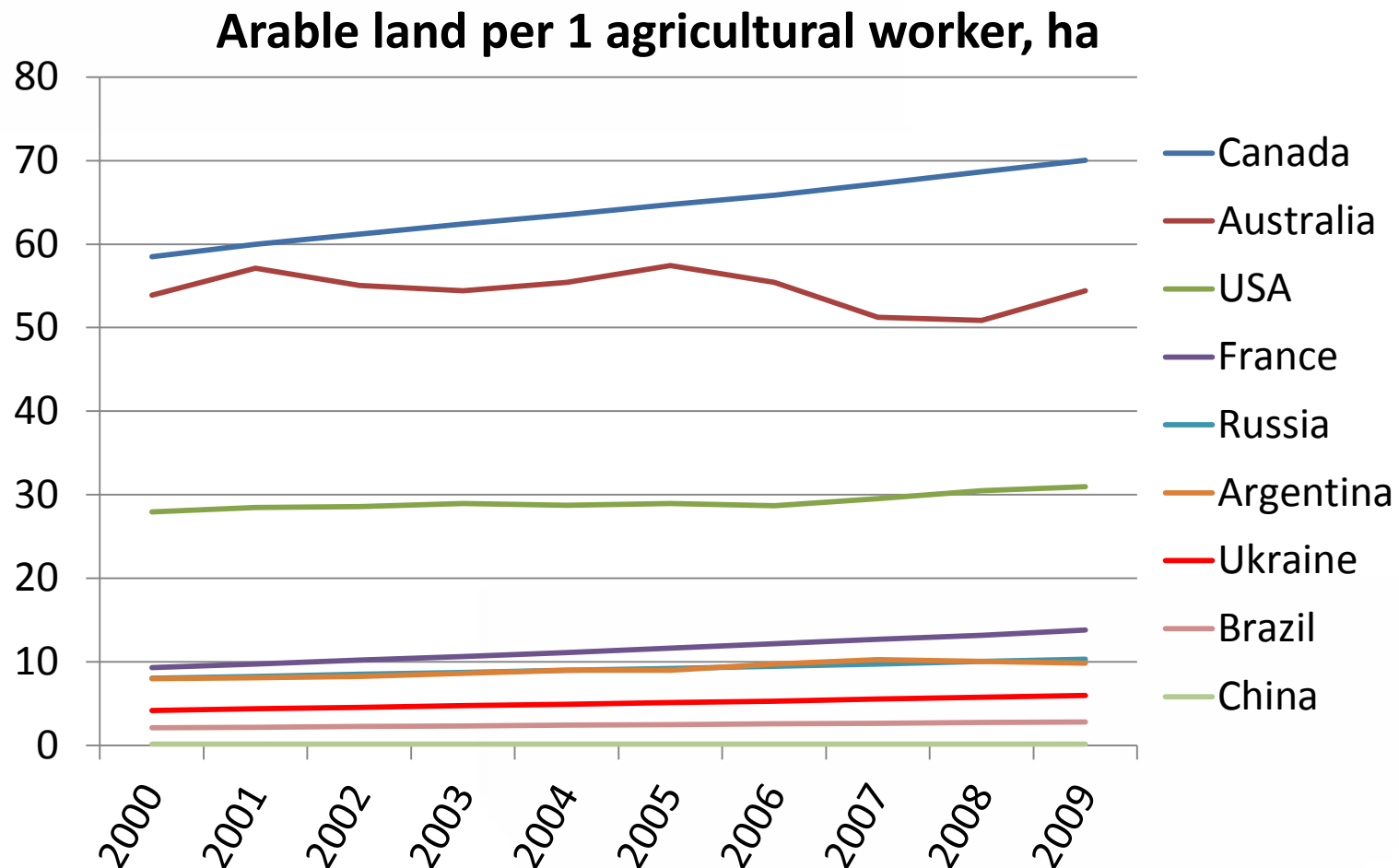


Labor productivity





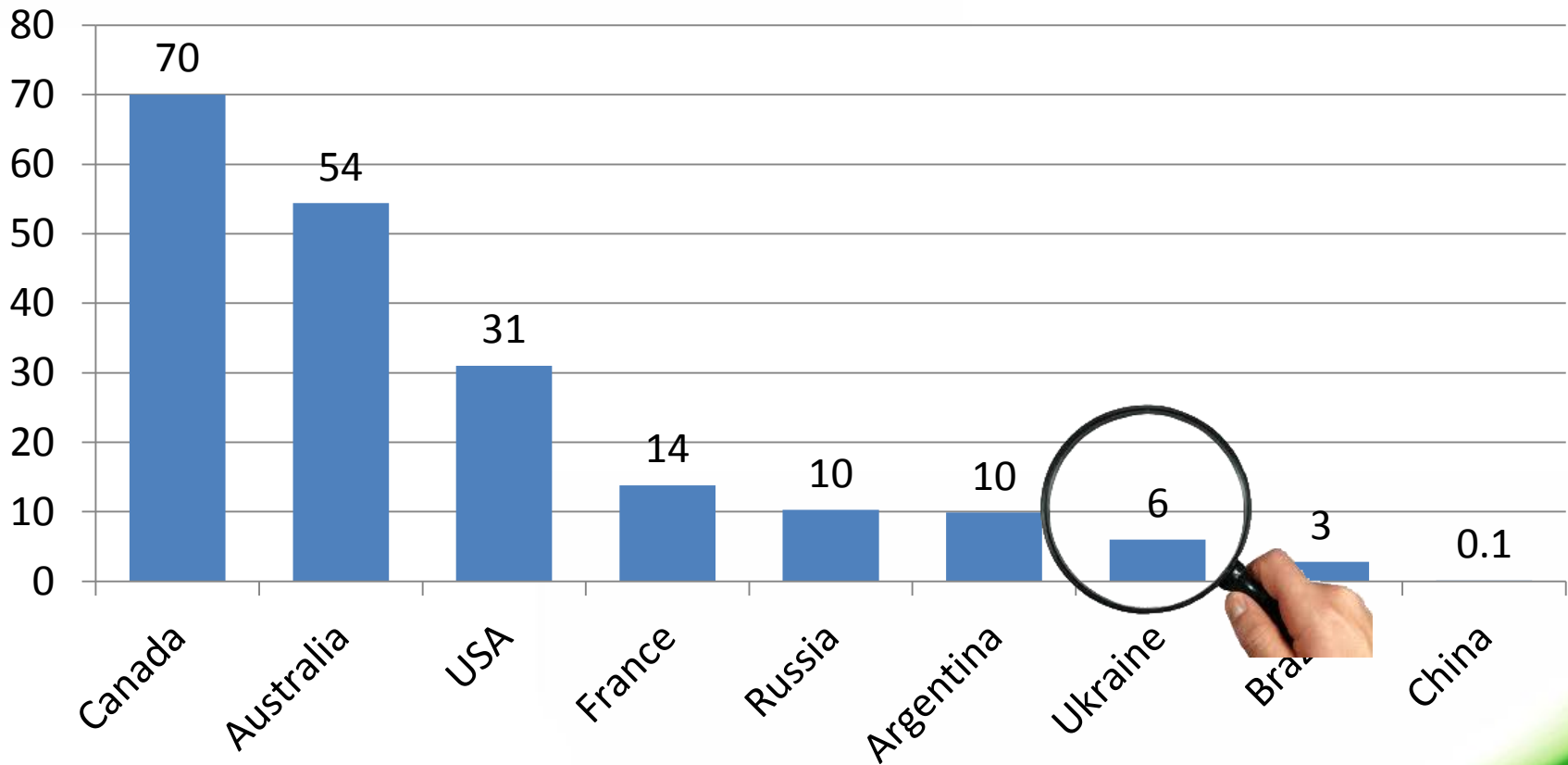
Labor productivity





Labor productivity

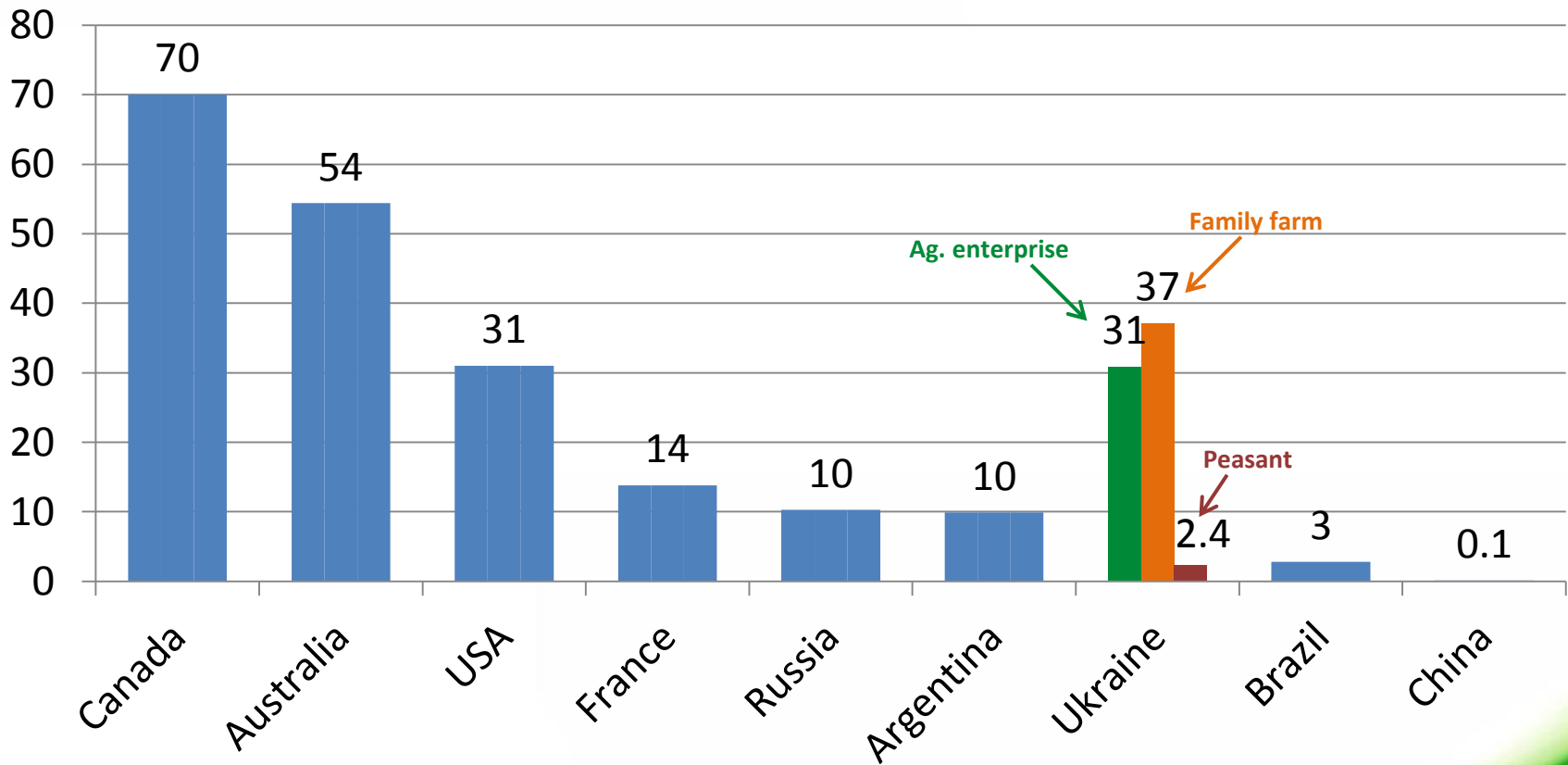
Arable land per 1 agricultural worker (2009), ha





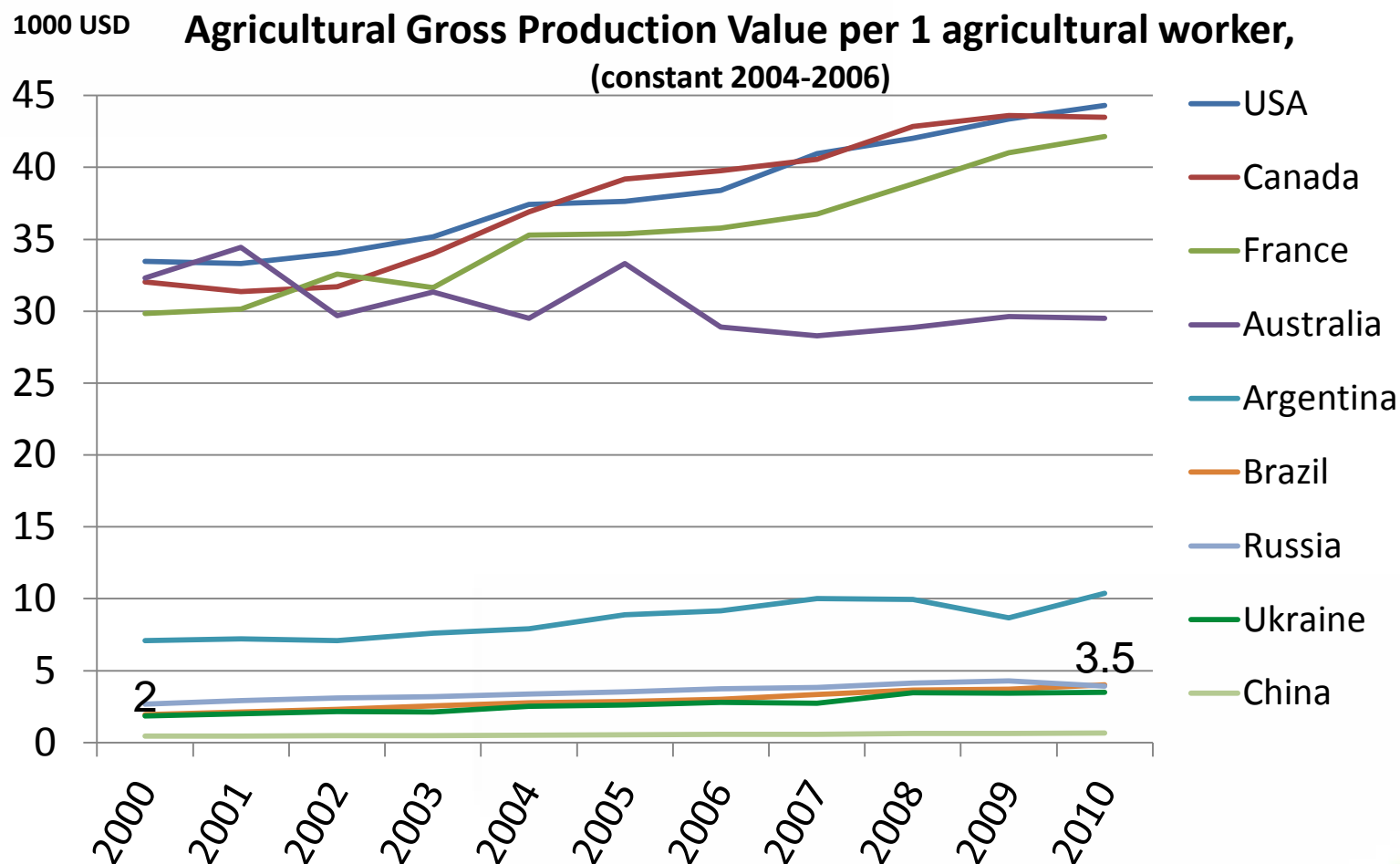
Labor productivity

Arable land per 1 agricultural worker (2009), ha



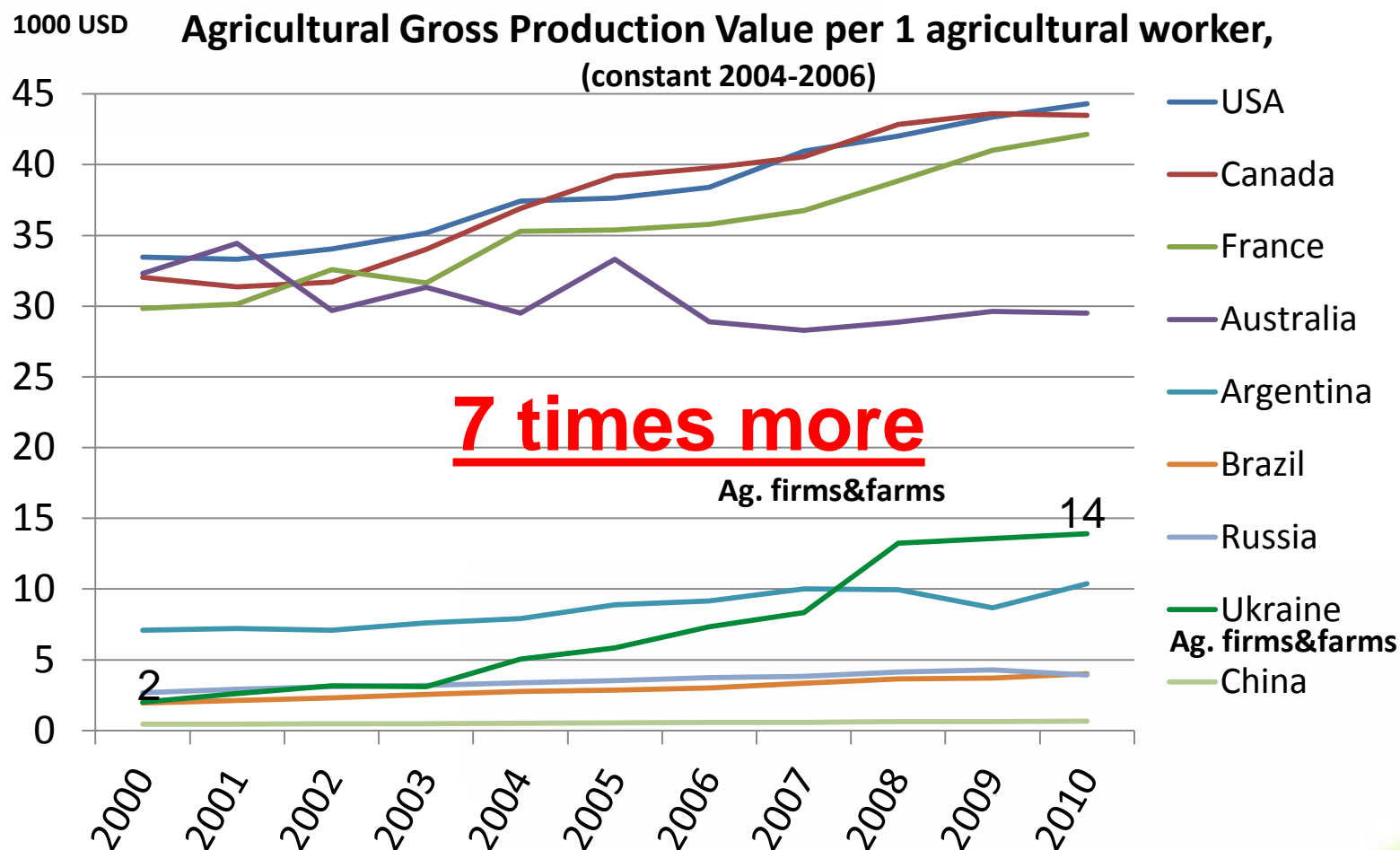


Labor productivity





Labor productivity





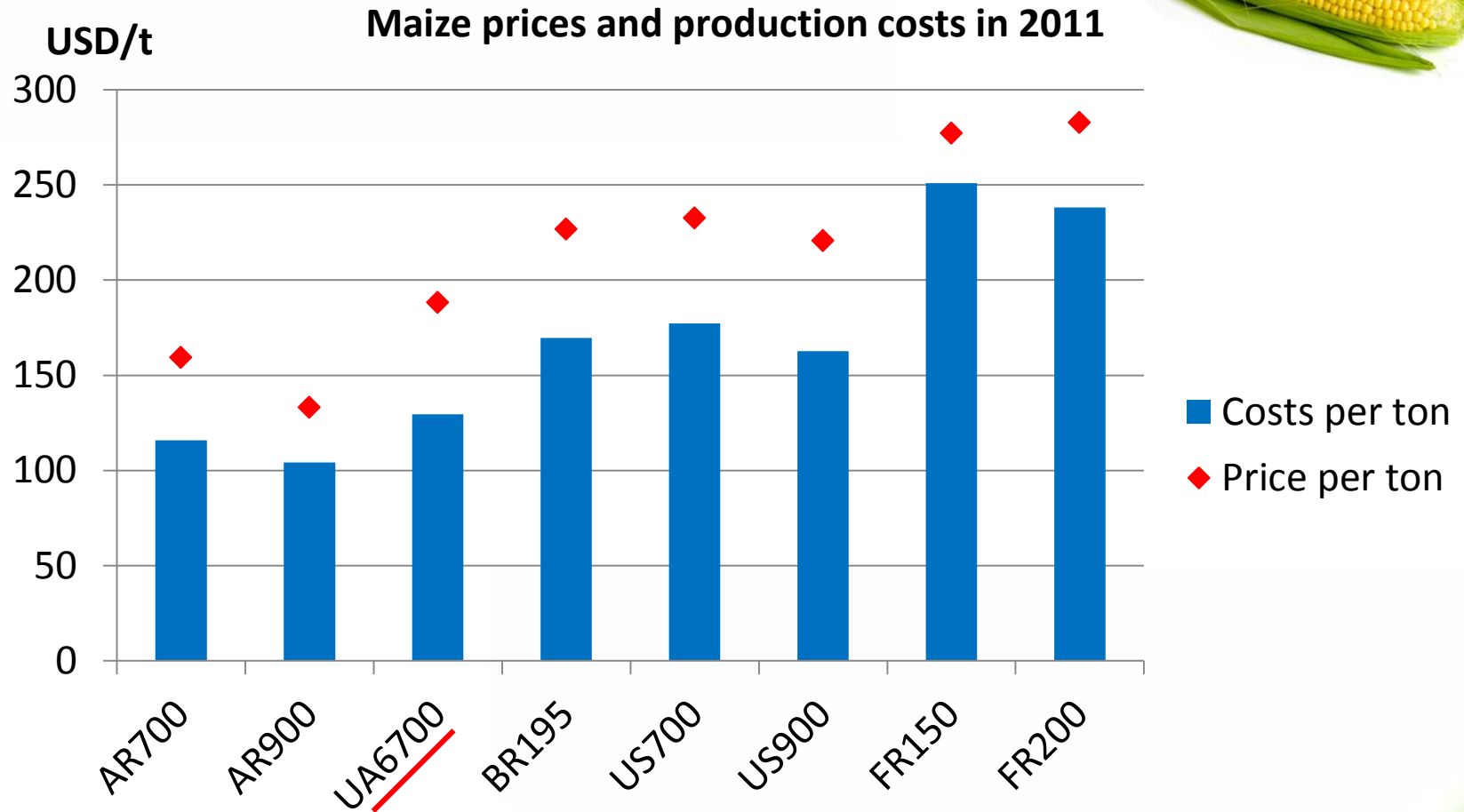
Farm Efficiency



Cost efficiency



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Source: agri benchmark.

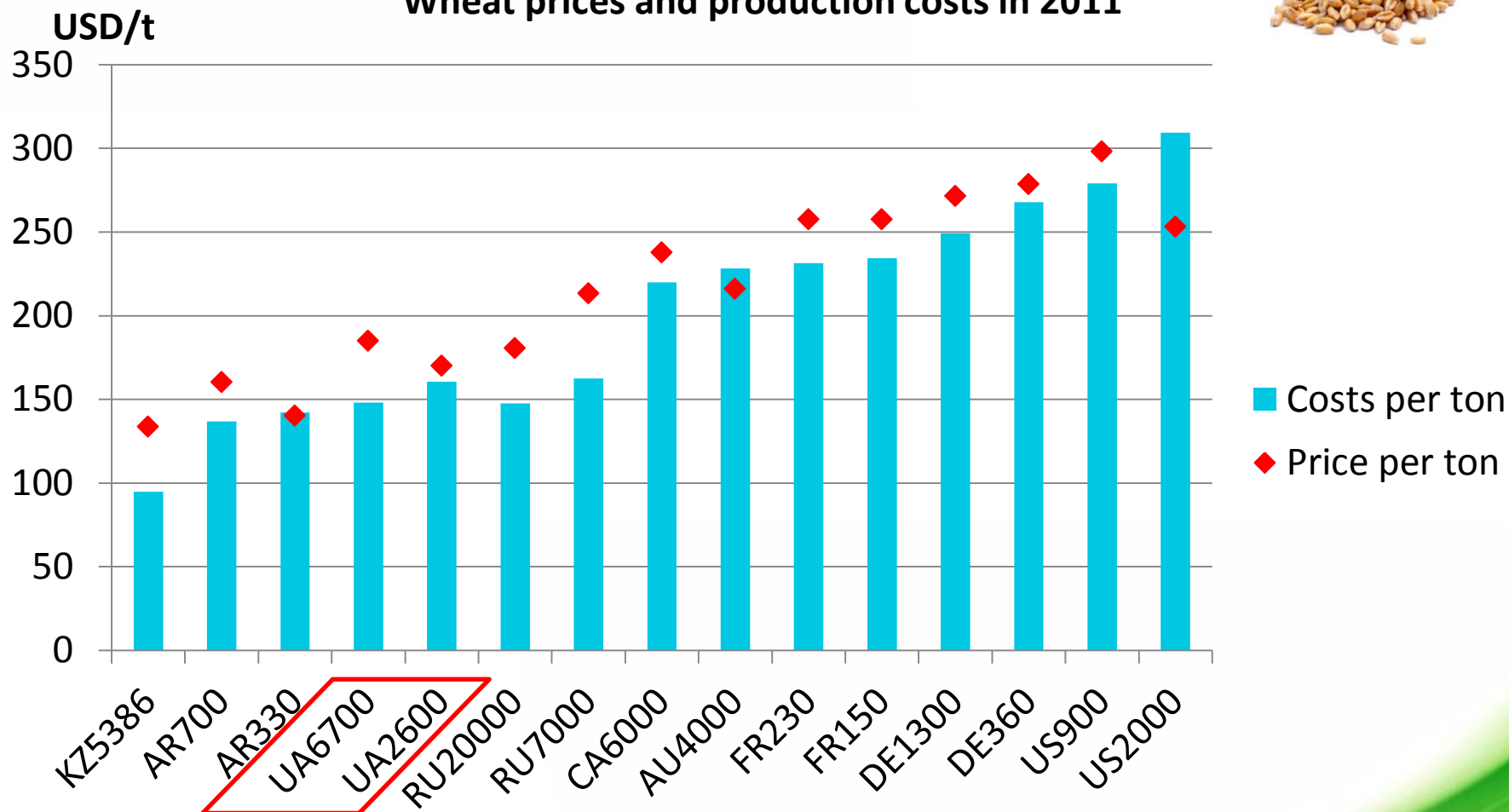
Cost efficiency



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Wheat prices and production costs in 2011



Source: agri benchmark.

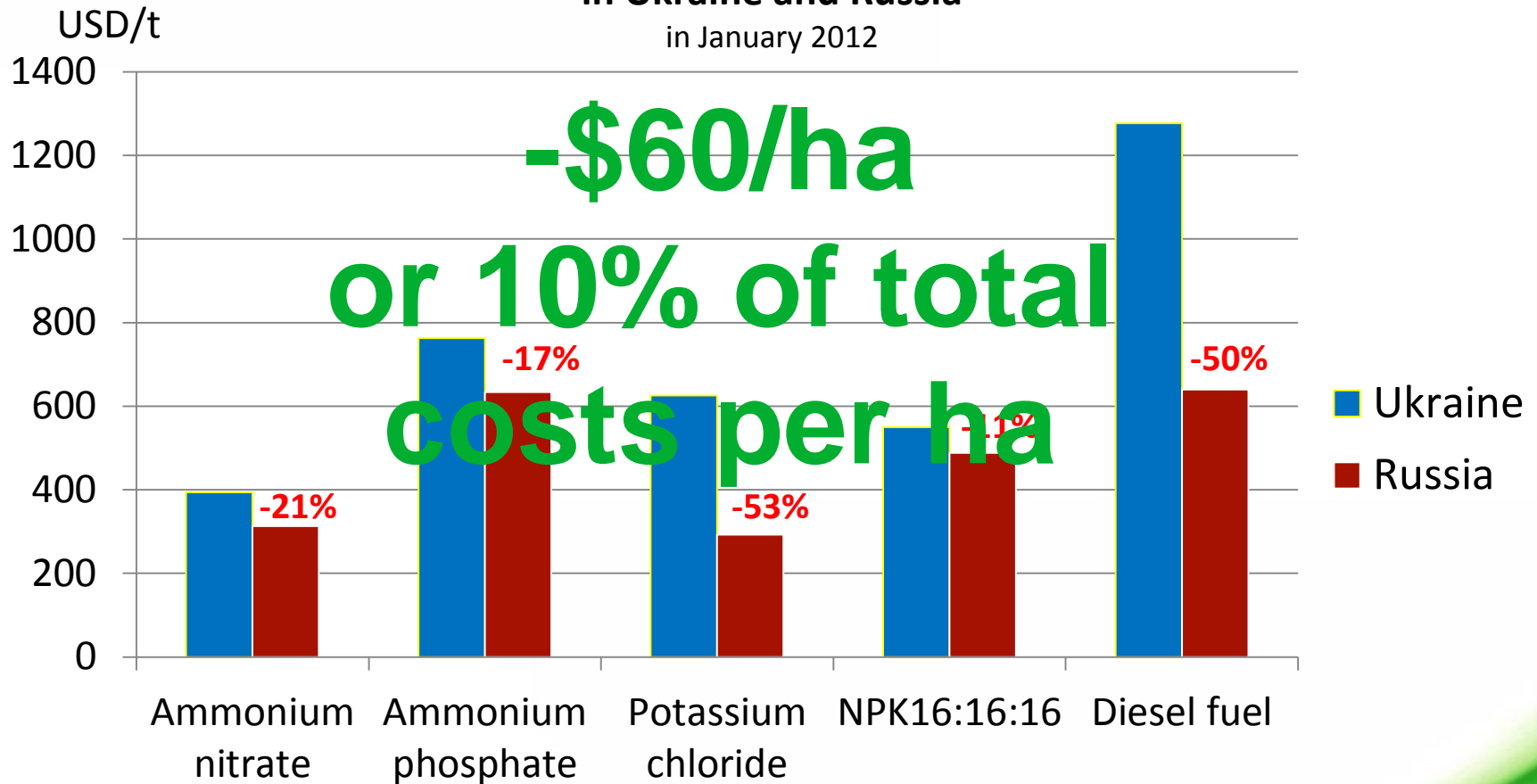


Inputs price advantage

Fertilizers & Diesel prices

in Ukraine and Russia

in January 2012





Determinants of agricultural productivity

Ag. technology, product and factor price determine output and input and, thus, productivity

- Technology Improvement in agriculture
- Global public spending for agricultural research and development
- Worldwide output price development
- Input Price development



Options for productivity increases

Human Capital Management

New technologies

Precision farming

GM seed

Better ag. machinery



Policy implications and options

- Bioenergy - Yes or Not
- 'Intensification vs. land expansion' in agriculture
- Agribusiness or "traditional farming"
- Agricultural research and education
- Global trade and national food security
- Rural area transformation



Thank you for your attention!