The Costs of Growing Wheat Around the World: A Look at *agri benchmark* Typical Farms

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Outline

1. What is agri benchmark?

2. Global Wheat Production

3. agri benchmark Typical Farms

4. Case Study of: 8 farms
   [RU, UA, PL, DE, US, CA, AR, AU]
Let’s grow together

1. Understanding growers needs and constraints enables you to improve products and services.

2. Understanding trends in global crop production allows you to adjust strategies.

3. Understanding agronomical and economic drivers of current production systems is the basis for innovations.

4. Understanding strengths and weaknesses of production systems from a global perspective makes it possible to take profitable decisions.
Who we are and what we do

1. *agri benchmark* is a global, non-profit network of agricultural economists, advisors, producers and specialists in key sectors of the value chains.

2. We use internationally standardized methods to analyze farms, production systems and their profitability.

3. We combine our farm-level knowledge with our expertise in international commodity markets and value chains.

4. Thereby we are able to provide scientifically consistent and soundly based answers on strategic issues to decision makers in agribusiness, policy and farming.
Present in all major countries and crops

Crop coverage:
Corn
Soybeans
Wheat
Sugar beet
Rice
Rapeseed
Oats
Rye
(Malting) barley
Sunflower
Sorghum
Cotton
Peas
Beans
Palm oil
Sugar cane

Countries participating in *agri benchmark* Cash Crop
Countries to come online 2015/16
Priorities for new partnerships
Major clients and research partners

- Food and Agriculture Organization of the United Nations
- John Deere
- European Commission
- IIASA
- Bayer
- Federal Ministry of Food and Agriculture
- giz

150 Jahre BASF
We create chemistry
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Production by Major Wheat Country/Region
2011-12 to 2015-16

Million Metric Tons


European Union  China  India  United States  Russia  Canada  Australia  Ukraine  Argentina  Kazakhstan

USDA – WASDE- June 10, 2015 & PSD Custom Query
Exports by Major Export Country/Region
2011-12 to 2015-16

- European Union
- China
- India
- United States
- Russia
- Canada
- Australia
- Ukraine
- Argentina
- Kazakhstan

USDA – WASDE - June 10, 2015 & PSD Custom Query
Changes in wheat acreage (2000-03 = 100)

1. Important wheat producing countries reduce wheat acreage (AR, CN, US, CA, ZA)
2. Slight expansion in wheat in RU, KAZ, BR.

Source: FAOStat 2014
Changes in wheat yields (2000-03 = 100)

1. Increases in yield more or less everywhere.
2. Strong upward trend in BR, CA, moderately in CN, AU, US
3. A few decreases in FR, UK, NO, SE.

Source: FAOStat 2014
Conclusions re. global developments in wheat

(1) Globally wheat acreage is shrinking – in particular in Central Europe, US, CA, CN.

(2) Growth in acreage just in RU, KZ, AU, BR and some African countries.

(3) Yield is still growing – however only modest increases (app. 1% p.a.) in US, RU, KZ. Strong growth: AU, CN, BR, CA and many African countries.

(4) Declining yields: UK and F

(5) Russia only modest increases in acreage and yields (despite a very low starting point).

Source: FAOStat 2014
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X = countries with agri benchmark typical farms which produced wheat in 2014

Source of base map: International Maize and Wheat Improvement Center (CIMMYT)
A typical farm...

- represents the origin of a major share of the national output in a given crop
- is defined by a certain production system and a combination (if any) of enterprises
- has certain structural features re. ownership of land as well as labor organization (family vs. hired)
- is regularly being re-assessed to track changes

Data is jointly gathered from partners, regional advisors and growers during Focus Group discussions.
Basis: Standard operating procedure (SOP).
Percent of crop land in wheat for agri benchmark representative farms, 2014

EU
EAST
NO. AMERICA
SO. HEMISPHERE
Wheat yields, 2014 (t/ha)
Wheat price, 2014 (USD/t)
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Wheat yield of selected farms, 2014 (t/ha)

High yielding systems vs. low yielding systems
Direct Costs, 2014 (EUR/t)

Cost advantages in RU and UA
AU: high herbicide costs due to increasing resistancy problems
AU: high labor cost
AR: major share of operations done by contractor
RU: high machinery cost
Total Costs and revenues, 2014 (EUR/ha)

Profitable wheat production in 2014 (except AR farm)
Big differences in total cost of production on per ha basis (RU/AU: 300€/ha vs. DE 1600€/ha)
Cash cost between 60€ and 120€ per tonne
RU: advantages in land and labor costs
Example Argentinian farm (South of Buenos Aires)
Profitable wheat production in previous years on EUR basis – consider exchange rate effect(!)
On farm competitiveness:
Typical farm Argentina, 2014 (EUR/ha)

On farm competitiveness of different crops: Corn and soybeans are more profitable in 2014
Case Study: Summary of Cost of Production

- Russia and Ukraine farms have a strong cost advantage in:
  - Fertilizer
  - Pesticides
  - Land
  - Labor (after Argentina and Canada)

- U.S. farm (North Dakota) has high costs in:
  - Fertilizer
  - Crop insurance
  - Land

- Australia farm has high cost per ton produced:
  - Herbicides – resistance problem
  - Machinery
  - Family labor
Cost of Production - Continued

- Germany and Poland farms have high costs on a per ha basis:
  - Direct cost (all inputs)
  - Landcost

- Global perspective: German typical farm is competitive (per t basis)

- Argentina farm substituted contractor cost for machinery and labor costs – wheat increasing on farm competitiveness

- Carefully consider exchange rate effects!
Thank you for your interest in agri benchmark.

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- Member of agri benchmark Cash Crop team -

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