Economic performance of Ukrainian agri benchmark farms

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Highlights

- Location: Ukraine, zones, farms
- Typical farms: introduction
  - Size and structure
  - Rotation and tillage
  - Machinery, labor force
  - Intensity of input usage
- Difference between typical and average Ukrainian farms
Ukraine on the map of Europe

Total area 60,4 m. ha
Agricultural land 41,6 m. ha
Arable land 32,5 m. ha
Including fallow 5,3 m. ha

Ranked
25 th by agricultural land
10 th by arable land

In the World

Source: FAOSTAT, 2007; SSCU, 2009
Agro climatic zones

- **Forest zone**
  - Average rainfall: 600 – 750 mm
  - Average temperature: -5° ... +19°

- **Forest-steppe zone**
  - Average rainfall: 500 – 580 mm
  - Average temperature: -6° ... +20°

- **Steppe zone**
  - Average rainfall: 400 – 530 mm
  - Average temperature: -2° ... +21°

Source: Hydro Meteorology Center of Ukraine, 2008
Crops distribution

Source: State Statistics Committee of Ukraine, 2009
Location of *agri benchmark* farms

- **UA 2500ZH***
- **UA 6700PO***

<table>
<thead>
<tr>
<th>Zone</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest zone</td>
<td>1</td>
</tr>
<tr>
<td>Forest-steppe zone</td>
<td>2</td>
</tr>
<tr>
<td>Steppe zone</td>
<td>3</td>
</tr>
</tbody>
</table>
## Typical farms: size

<table>
<thead>
<tr>
<th><strong>UA2500ZH</strong></th>
<th><strong>UA6700PO</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Before 2006 it was post-kolkhoz independent farm</td>
<td>Large farm unit joined in one</td>
</tr>
<tr>
<td>In 2006 farm was merged by Agro holding with total 12000 of land</td>
<td>Lands have been collected from major lands of three former independent post-kolkhozes</td>
</tr>
<tr>
<td>In 2010 UA2500ZH expanded to <strong>3100 ha</strong> by taking over another 600 ha</td>
<td>Farm belongs to a very large Agro holding</td>
</tr>
</tbody>
</table>
Typical farms: structure

- **UA2500ZH***
  - Mixed production: cash crop, milk and swine production
  - 2/3 of land allocated for cash crop production, the rest is for fodder crops
  - Farm has its own drying and storage facilities

- **UA6700PO***
  - 100% cash crop farm
  - 2/3 of all land is under grains, the rest is under oil crops
  - Farm has own drying and storage facilities
Typical farms: structure of crops

**UA2500ZH***
- w. wheat: 15%
- s. wheat: 17%
- s. barley: 10%
- w. repaseed: 14%
- fodder grass: 4%
- corn silage: 15%

**UA6700PO***
- w. wheat: 22%
- s. wheat: 14%
- s. barley: 6%
- w. repaseed: 6%
- fodder grass: 5%
- corn: 27%
- soybeans: 8%
- sunflower: 5%
Typical farms: rotation and tillage

**UA2500ZH**
- Rotation is not fixed yet, because of continuing changes area, number of fields and crops
- Mostly low-till cultivation but part of land is ploughed
- Intensive high input production oriented for high yields

**UA6700PO**
- Rotation of 7 crops, stable for few last years
- Mostly low tillage cultivation, don’t use no-till technology
- Intensive high input production oriented for high yields
Typical farms: machinery and labor

- Modern high productive machinery is used
- Two 280 h.p. Claas, four 90-100 h.p. and four 150 h.p. “soviet” tractors used
- Two 280 h.p. Claas and four 100-200 h.p. older combines in use
- Own fleet of 10 t. trucks
- Number of employees is 143 including 57 of non-CC ent.

- New modern equipment
- 500 and 280 h.p. Challengers and eight 80-100 h.p. locally made tractors
- Four 280 h.p. Claas combines
- In the harvest time 2-4 combines are contracted
- Eight 10-12 t. trucks are leased
- Number of employees is 102 of which 60 are seasonal
Typical farms: machinery

**UA2500ZH**

**UA6700PO**
Typical farms: intensity of production

- **UA2500ZH***
  - High intensity to achieve high yields
  - N application 130 kg for wheat, 170 kg for rapeseed, 150 for corn and 70 for barley
  - P&K by 70 kg for rapeseed, and 40-90 kg for rest crops
  - Plant protection cost varies from 30 to 50 USD/ha

- **UA6700PO***
  - High intensity to achieve high yields
  - N application ~100 kg for wheat, 140 kg for rapeseed, 50 kg for barley
  - P&K by 20-30 kg for wheat and rapeseed
  - Plant protection cost is 20-30 USD/ha
Average Ukrainian farm

- Acreage about 2000-2100 ha
- Mixed production with 2/3 of cash crop income and 1/3 income from livestock
- Main crops are the w. wheat, s. burley, corn, rapeseed or sunflower, silage corn, other minor crops and 15% of hay or pasture
- Mostly reduced and conventional tillage
- No fixed rotation
- Financial shortage
- Low fertilizer application (N–38 kg, P–11 kg, K–7 kg)
Average Ukrainian farm

- Limited plant protection application
- 4/5 of all machinery is 15-20 years old, 1/5 is a modern equipment
- All labor is hired, middle level educated, low share of employees can use modern machinery properly (but share increases)
- Large number of employees, up to 50% of them are seasonal workers
Average Ukrainian farm: yields (2005-2009)

<table>
<thead>
<tr>
<th>Crop</th>
<th>Yield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter wheat</td>
<td>2.9 t.</td>
</tr>
<tr>
<td>Summer wheat</td>
<td>2.3 t.</td>
</tr>
<tr>
<td>Winter barley</td>
<td>2.5 t.</td>
</tr>
<tr>
<td>Summer barley</td>
<td>2.2 t.</td>
</tr>
<tr>
<td>Corn</td>
<td>4.3 t.</td>
</tr>
<tr>
<td>Rye</td>
<td>1.9 t.</td>
</tr>
<tr>
<td>Rapeseed</td>
<td>1.9 t.</td>
</tr>
<tr>
<td>Sunflower</td>
<td>1.5 t.</td>
</tr>
<tr>
<td>Soybeans</td>
<td>1.7 t.</td>
</tr>
</tbody>
</table>
Thank you for your attention!

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