

Authors: Kathrin Strohm Andriy Tovstopyat **Simon Walther** May 2010

The Ukrainian farm UA2500ZH in the context of its region



Arable farming in Ukraine

Share of wheat in the arable land of each region 2009



Source: UCAB based on SSC of Ukraine

Land use in Ukraine 2008



Agricultural land use in Ukraine



The graph displays the downturn of the Ukrainian agricultural sector in the transition period, starting from early 1990s. Since 2000, the sector has been recovering again, new long overdue investments were made, more land cultivated and higher yields obtained.

In 2009, wheat, barley and sunflower were the

Share of rapeseed in the arable land of each region 2009



Source: UCAB based on SSC of Ukraine

Ukraine can be divided into three distinct agro-climatic zones. The Steppe Zone in the South has highest temperatures. Wheat is grown across Ukraine with hot spots in the central and western regions.

mostly grains, oilseeds, potatoes, legumes and field vegetables. Besides this agricultural land, another 13% are used as pastures and to produce hay. In 2008, a substantial amount of nearly 9% was rotational fallow. This area could be brought into production once economic conditions would trigger such a process and land use intensification would be needed.

major cultivated crops in Ukraine. Since the 1990s acreage of corn silage dramatically reduced as livestock numbers gradually declined. Due to low prices and a difficult market environment, sugar beet production also dropped. On the other hand, the harvested area of sunflower, corn, rapeseed and soybeans has been on the rise during last 10 years.

The typical farm UA2500ZH is located in the south of Zhytomir region at the edge between the Forest Zone in the North and the Forest Steppe Zone in the center with highest yields. Rapeseed which currently covers a maximum of 1 million ha is predominantly grown in the western region.

The typical farm UA2500ZH in the region Zhytomir

Farm structure – Zhytomir oblast (2008)



Source: Own calculations of UCAB based on SSC data

300

280

260

240

220

200

180 160

ر 140 120

100

80

60

40 -

20

To obtain reliable data on the traditional "post-kolkhoz" farms is a real challenge. Therefore, in a first attempt only individual farms within agroholdings – top performing in the national context – have been chosen to be used in the agri benchmark comparison. Though 20 years have passed after the collapse of the

communist regime, the structure of Ukraine's farms is still very much influenced by its history. There are thousands of small household land plots mostly for subsistence needs, a large number of small individual

farms (usually around 100 ha), about 8,000 bigger "post-kolkhoz" farms (often around 2,500 ha) that bring the biggest share of the national output and a few dozens of agroholdings, comprising several thousands of hectares. This structure is also reflected in Zhytomir oblast (ZH). The Ukrainian Agribusiness Club (UCAB) estimates that 41% of the agricultural land in ZH is cultivated by farms larger than

Farm classification Zhytomir oblast (2008) - based on gross revenue shares



Having their roots in the Soviet age many of today's agricultural enterprises are mixed farms, i.e. they generate about two-thirds of their total revenue from crop and the rest from livestock production (milk or meat) or the provision of services.

Also UA2500ZH was selected in such as way that it contains livestock production including the provision of fodder crops.

Source: Own calculations of UCAB based on SSC data

Gross margin comparison



When comparing gross margins, the huge difference between UA2500ZH and the farm average of Zhythomir region becomes even more apparent. In all crops the agro-

holding performs excellent. This is because of higher yields (see left) and due to better and more efficient management. However, the results displayed in the graph need to be qualified since gross margin for the agri benchmark farm is calculated across two years while Zhytomir oblast data was available for one year only, 2008. Further, in October – December 2008 when most "normal" farms had to sell their harvest to pay loans, they could realize only very low prices (50 - 60% lower than 3 months earlier).





and structures. Since the farm uses more fertilizer than on average, modern seeds and machinery it could realize 80-120% more wheat, barley and rapeseed. In corn the difference was not as big (20%).

Mean climate data 2001 – 2006 Zhytomir



is the hottest month with up to 19°C on average. Precipitation is distributed in a favorable way, with highs (90 mm/ month) during May-June and November.

Description of the typical farm

General information	
Region	Zhytomir oblast
Type of farm	Mainly cash crop
Other enterprise	Livestock and milk production
Legal status	Limited liability company; one farm belonging to a larger agroholding
Tillage system	Conservation tillage, with reduced stubble breaking and mulch-seed
Natural conditions	
Relief (hills, upland, plains)	Plains
Elevation (m above sea level)	90
Soil type	Black soil
Climate	Moderate
Main growing season	April - September
Average precipitation per year (mm)	600
Rainfall distribution	60% during October – March, rest during summer months
Duration of sunshine or cumulative temperature	Between 40 and 280 hours per month, depending on the season

The absence of an agricultural land market is a major challenge to Ukraine's agricul-

UA2500ZH – winter rapeseed after winter wheat

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This graph visualizes the production system of win-

tillage and seedbed preparation, seeding in August

is accompanied with fertilization (N, P and K) and

followed by an herbicide application in September.

times. Fungicides and insecticides are applied dur-

ing April and June before rapeseed is finally harvest-

Starting end of February, nitrogen is given three

ed in July.

ter rapeseed, grown after winter wheat. After stubble

Crops grown by UA2500ZH

Ninter whea

Summer wheat

ture. A moratorium still inhibits to trade land. Therefore, the pre-panel typical farm UA-2500ZH does not own any arable land but rents its entire crop land at 300 UAH/ha (~ 38 USD/ha). Renting contracts are signed on average for 5-10 years and thus provide a solid basis for planning and strategic decisions. On average, the fields of the farm are 90 ha large which is an asset for mechanization and to realize economies of scale.

Being a "post-kolkhoz" farm, UA2500ZH employs many workers till today, in total 143. However, 57 of them work for the dairy and livestock production sectors and thus are not allocated to cash crop farming. 25% of the remaining personnel work in leading positions (as agronomist, engineers, accountants and directors) whereas the rest is employed as drivers, secretaries, assistants and security guards.



crop rotation (yet). In total, 7-8 crops are cultivated: winter and summer wheat, corn and rapeseed mainly as cash crops for the market whereas fodder crops (fodder grass, alfalfa, corn silage) are used internally in the livestock production.