

## STATE AND PROSPECTS FOR AGRICULTURAL TRACTORS MARKET IN POLAND

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*Current situation and prospects for agricultural tractors markets in Poland. In recent years, an increase in sales of agricultural tractors was recorded. In Poland, in 2012 19 315 new tractors were sold, so Poland is recognized as the fourth tractor market in Europe.*

*В статье представлена текущая ситуация и перспективы развития рынка сельскохозяйственных тракторов в Польше. В последние годы отмечен рост продаж сельскохозяйственных тракторов. В 2012 году в Польше продано 19 315 новых тракторов, в результате которого Польша признана четвертым рынком тракторов в Европе.*

**Introduction.** In relation to agriculture of the leading countries of the European Union Polish agriculture is characterized by a lower level of mechanization of production processes. The age and wear of tractors and agricultural machinery Polish agriculture is disturbing. The need of Polish agriculture is the modernization of the machine and its rational use. Thus, in the near term, a lot of farms in Poland will have to restore and modernize its machinery. This state allows you to assess Poland as a promising market for tractors and machinery.

**Purpose and scope of work.** The paper presents the current situation and prospects for the tractor market in Poland. The scope of work includes the analysis of changes in Polish agriculture equipment for tractors, sales analysis, domestic supply and exports of agricultural tractors.

**Changes to the Farm Tractors Poland through the years 2002-2010.** The level of farm tractors based on the Agricultural Census (PSR) was assessed on the basis of the Central Statistical Office (GUS). The last census (PSR) was completed in 2010. As shown in CSO data (PSR 2010) Polish households are equipped with 1,471 thousand tractors, which is by 9.9% more than in 2002. Nearly 95% of the total number of tractors was in farms larger than 1 ha.

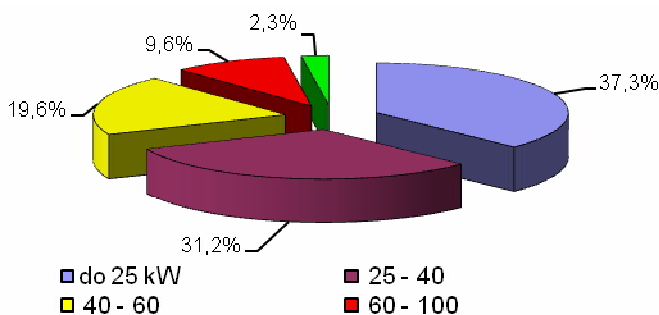
The CSO data shows that 69.9% of Polish households had one tractor, 21.4% - 2 tractors, 5.9% of households were equipped with three tractors, and 4 or more tractors was possessed by 2.8% of households. The number of households by number of agricultural tractors held by them increased with an increase in agricultural area. 1-tractor farms were most

numerous in the group of agricultural area from 3 to 10 ha (53.2%), 2 tractors - in group of 7-30 ha (67.7%), 3 tractors - in the range of 15-50 ha of agricultural land (63.6%), and households with 10 or more tractors was the most in the group with an area of 200 hectares of agricultural land and more (80.7%) (Table 7) [CSO 2011].

Most tractors, machinery (220 thousand pcs.) were in the area group of 10 to 15 ha. Farms larger than 7 hectares on average were equipped with a little more than one farm tractor. In 2010, on average there were 4.7 tractors per farm in the group of more than 100 ha [GUS 2011].

The changes that have occurred over the eight years included the structure of tractors power. Almost identically like in 2002, the structure of tractors was dominated by tractors in the range 15 - 25 KW and 25 - 40 KW. Total percentage of that group in the total number of tractors amounted to 65.3% (in 2002 it was 59.1%). The number of tractors with a power of 60 KW increased by less than a 2%. [GUS 2011].

The structure of the tractors on farms by engine power is shown in Figure 1.



**Figure 1. The structure of tractors on farms by engine power**

*Source: CSO 2011*

Based on CSO data analysis it can be concluded that Polish agriculture is well-equipped with tractors. However, as researchers' long-term analysis shows, the structure of tractors is mostly dominated by obsolete tractors [Szeptycki, Wójcicki internet1; Zając, Izdebski, Kusz 2010]. Muzalewski [2004] estimated the average age of tractors in Polish agriculture at the level of 21 years, Zając [2010]. at 20 years. According to Tabor [2001] such a state is affected by aging of machinery and significant import of used tractors to Poland.

**Sales of agricultural tractors in Poland in 2009-2010.** Sales of new and used tractors in Poland is measured on the basis of registration in the Central Register of Vehicles and Drivers (CEPIK) [Lorencowicz 2010, 2011, 2012, Martin & Jacob report].

Year 2009, as compared to year 2008 has seen a decrease both in registration of new and used tractors. In total, 27 511 tractors were registered, including 13 657 new tractors, which accounted for 49.9% of all registered tractors [Lorencowicz 2010].

Most new and used tractors registered were produced by Zetor company from Czech Republic. The number of registered tractors of Czech producer in 2009 reached the level of 6 084 units. This was followed by the following companies: New Holland with 2 760 units registered and John Deere tractors with 2 636 tractors.

In terms of sales of new tractors in 2009, there was a slight advantage of New Holland (2 571 units) over the second Zetor (2 510 units) [Lorencowicz 2010].

Among the new tractors the most were registered in the 83-136 bhp range (45.5%) and 55.8 - 81.6 bhp (34%). Average power of new tractors registered in the year 2009 amounted to 102.5 bhp (75.4 kW) and was by 6 bhp higher than in 2008 [Lorencowicz 2010].

According to reports of the Central Register of Vehicles and Drivers and in 2010, 28 733 agricultural units were registered including 14 529 new (50.2%).

Like in 2009, the brands structure of registered tractors was dominated by Zetor. In total 5464 tractors of this manufacturer were registered. Next places by the number of registrations were taken by John Deere (3620 registered tractors) and New Holland (2627 units) [Lorencowicz 2011].

With regard to the registration of new agricultural tractors the most number of registered units was produced by New Holland (2376), then by Zetor (2171), John Deere (2104) and MTZ-BELARUS (1083) [Lorencowicz 2011].

The average power of tractors registered in Poland in 2010 was 92 hp (70 kW). Tractors registered in 2010 had slightly higher average power (100 hp). Tractors of more than 83 HP accounted for 57% of the total registrations made. Most registered tractors were under the range of 83 to 109 bhp (34%) and 55 to 82 bhp (31%) [Lorencowicz 2011].

In 2011, according to the available data, the number of first registrations of tractors in Poland amounted to 31 106, which is a value more than 8% higher than in 2010. More than 16 690 machines were

registered as new (year of manufacture 2010 and 2011) and as many as 12 531 machines were manufactured in 2011. The minimum number of registrations was made in January (1824 units) and the most in March (3,599 units) [Lorencowicz 2012]. With regard to manufacturers most tractors registered were produced by Zetor (4746), John Deere (3845) and New Holland (2911). In the case of registered brand new machines New Holland Tractors (2633 units) were at most. This was followed by: John Deere (2293 units), Zetor (1840 units) and MTZ (1548 units) [Lorencowicz 2012].

Nearly 30% of the total number of registered tractors in 2011 included tractors with power ranging from 83 to 109 hp. The next significant group (22% of total registrations) were tractors with power ranging from 55 to 82 hp [Lorencowicz 2012].

Year 2012 was a record year in terms of sales of new tractors. 19 315 tractors were registered, which gives a better result by 11 percent better than in 2011. This result currently puts Poland in fourth place in Europe in terms of sales [Martin & Jacob report].

Among the new machines, most of purchased tractors had a 76 to 99 hp engine, in 2012 7,410 were sold. The biggest changes concern the buying preferences of motor power in the range of 131-160 hp, demand for which has increased by over 28 percent compared to last year. Other machines that significantly had grown in popularity are those with slightly less power (100-130 bhp), which were chosen by more than a quarter of buyers as compared to 2011. The decline of registration was only power of tractors under 50 hp [Martin & Jacob report].

In 2012 New Holland was the most popular brand of tractors, with 3831 tractors registered. In terms of the number of units sold Czech Zetor was the second, 2,738 units sold, but in December it was only 228. The third place is occupied by 161 John Deere tractors sold in the last month and 2,674 in the entire previous year. BELARUS MTZ', who in the forefront, sales declined in 2012 by 70.9% (641 registered units). In 2012, interest in used machinery decreased. Farmers registered 11.5 percent less used tractors [Martin & Jacob Report].

According to Martin & Jacob's analysts' forecasts, total sales in 2013 may remain at a level of 16-17 thousand units.

**Domestic supply and export of agricultural tractors.** Between 2003 and 2010, 48.2 thousand tractors were made in Poland (average of 6 024 units per year). Import of tractors at that time amounted to 117.1 thousand pieces (an average of 14 643 units per year), and export: 25.3

thousand pieces (approximately 3 161 units per year). In the period of 2003-2010 the average annual production of tractors decreased by 38% and its exports by 28% [Pawlak 2011].

Polish export was dominated by brand new tractors, whose share in the period under study ranged from 92 to 98%. The supply of brand new tractors to the domestic market in 2010 was greater by 134% than in 2003, while the supply of second-hand tractors decreased by 59%. During this period, the share of new tractors in the structure of supply increased from 54 to 87% [Pawlak 2011].

**Funding opportunities of tractors market in Poland.** After the Polish integration with the European Union significant recovery in the market for tractors and agricultural machinery was noted. The reason for this change was the possibility of the implementation of the investment based on finances from the European Union structural funds. One of two programs co-financed from EU funds to support the development of agriculture was the Rural Development Plan (RDP) from 2004 to 2006. RDP 2007-2013 was continuation of the activities. As part of these programs, farmers could apply for funding to purchase tractors. Thanks to action 121 "Modernization of agricultural holdings" (RDP 2007-2013), Polish farmers bought 21 341 tractors [Cieslak 2013].

Another of the possibilities of financing the purchase of agricultural machinery and tractors is leasing, which is growing steadily in popularity. In the third quarter of 2012 agricultural machinery accounted for over 10% of all leased movables in Poland, and their total value was estimated at PLN 2 375.63 million [Płochocka 2013].

**Prospects for the tractors market in Poland.** According to the research by Martin & Jacob the most important reviving factor of the situation on farms in Poland is to purchase modern equipment that improves productivity [Report Martin & Jacob 2012]. Nearly 20 percent of farmers interviewed by Martin & Jacob declares the purchase of new agricultural equipment in the next three years and 13 percent is interested in buying second-hand equipment [report by Martin & Jacob 2012].

Today the RDP 2007-2013 fund the European Union ends, but we can expect that by the year 2014 similar programs will be run. Moreover, large prospects are visible for tractors lease.

In January 2013, 1022 tractors were registered, which means that compared to last year a decline in sales of tractors in Poland by 22% was seen [internet3]. However, according to the research by Niewiadomski (2012), 2013 will be good for manufacturers of tractors and machinery.

A detrimental phenomenon to the development of mechanization is the existence of unfavorable relation of procurement prices of agricultural products to prices of production means including tractors [Ziętara 2009; Zajac, Izdebski, Skudlarski 2012]. This factor will largely determine the scale of tractors purchase. It is possible that in the case of limited aid funds sales of used tractors will increase.

According to forecasts developed by Wójcicki [2003] estimated the economic development growth, internal and external demand for food and non-food agricultural products and the supply of funds from the EU will provide countryside and agriculture with more and more resources for investment. Having in mind this estimate and combining it with the declaration of the farmers on the purchase of machinery and tractors it can be assumed that the Polish market will feature increased demand from farmers.

**Summary.** Since joining the European Union till the end of 2011, 260 thousand farms purchased 1.150 million of agricultural machinery [Internet2]. Value of the index of number of brand new tractors supplied to the domestic market in a given year per 1,000 tractors in agriculture has increased from 5.44 in 2003 to 11.3 in 2008 [Zajac et al. 2011a, 2011b]. These record findings are not only due to the increasing farmers' income, but mainly due to EU funds. With funding from the Rural Development Programme, farmers bought 40 thousand new tractors. In total, during the first seven years of EU membership, Polish market was supplied by a total of about 230 thousand agricultural tractors (both new and used) [Internet2]. In spite of this, Poland in this respect is behind the countries of Western Europe. Analyzing the current situation of agricultural holdings and the current situation in tractors market, it can be evaluated that Poland is a promising market for manufacturers of tractors.

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