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SURVEY OF THE EUROPEAN MARKET DISTRIBUTION OF THE TOWED BALERS, SPRAYERS AND FERTILIZER SPREADERS

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Abstract: Trailed machinery and transporters with various types of suspension account for a large proportion of the manufacture and sale of agricultural machinery in Europe. These trailed vehicles cover a wide functional range: agricultural trailers, tanker trailers, trailed fertilizers and manure spreaders, sprayers and fodder mixing wagons. They also have many different types of suspension: tandem, tridem, sprung, rigid, steered, etc. Of the product groups under examination, those with the highest levels of sales in terms of number of units were round balers, trailed sprayers and fertilizer spreaders. There is also a substantial market in large square balers, but rather than the number of units, it is the value of machines sold that is significant.

Key words*: agricultural machinery, towed machinery, trailer, suspension, market share*

INTRODUCTION

Trailed machinery and transporters with various types of suspension account for a large proportion of the manufacture and sale of agricultural machinery in Europe. These trailed vehicles cover a wide functional range: agricultural trailers, tanker trailers, trailed fertilizers and manure spreaders, sprayers and fodder mixing wagons. They also have many different types of suspension: tandem, tridem, sprung, rigid, steered, etc. [2, 7, 8]

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MATERIAL AND METHODS

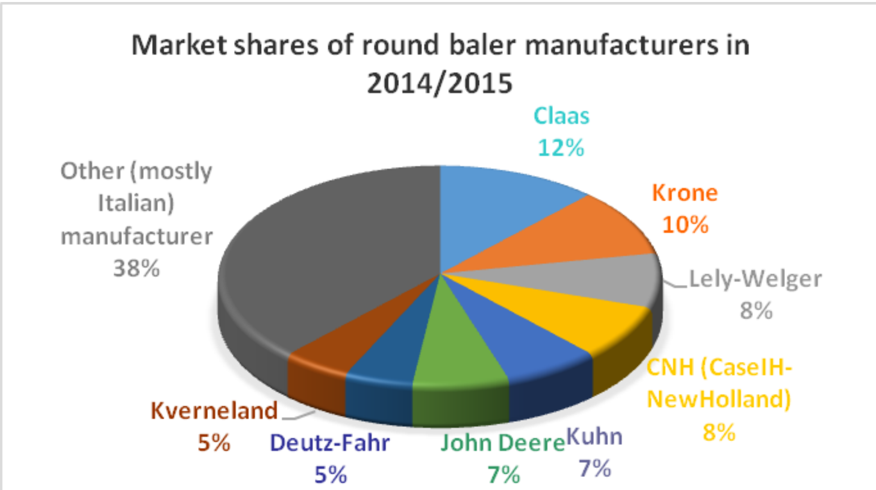
The data of the survey was gathered from the publications of national statistical offices, professional associations and from the information and catalogues of the manufacturers. [1, 3, 4, 9]

We present the results of systematically data collection and analysis regarding our survey of the European market of towed agricultural machinery.

RESULTS AND DISCUSSION

Determination of the market shares of major manufacturers by product category. Round balers, which come in of various constructions and sizes, are made by about 40 companies worldwide. Total annual sales vary between 30,000 and 50,000 units, but have been typically between 30,000 and 35,000 in recent years. Round balers have the common feature of being towed and driven by tractor. All have either a single-axle or – the versions combined with a bale wrapper – twin or tandem axle suspensions. The latter, owing to their weight and towing speed, which is maximized at up to 40–50 km/h, generally require braked axles.

Most round baler machinery manufacturers are based in Europe, and the largest number of units are made in Germany and Italy.



Total annual number of units sold: 30,000-50,000

Figure 1. Market shares of round baler manufacturers

The two largest manufacturers are Claas and Krone of Germany. They produce the largest range of types and models and alternate in the position of European market leader. Other large manufacturers are the Lely-Welger (German-Dutch), the CNH Agriculture (Italian), the Kuhn (French) and the John Deere (USA). Welger filed the first patent for a fixed-chamber baler and is a dynamic manufacturer and developer within the

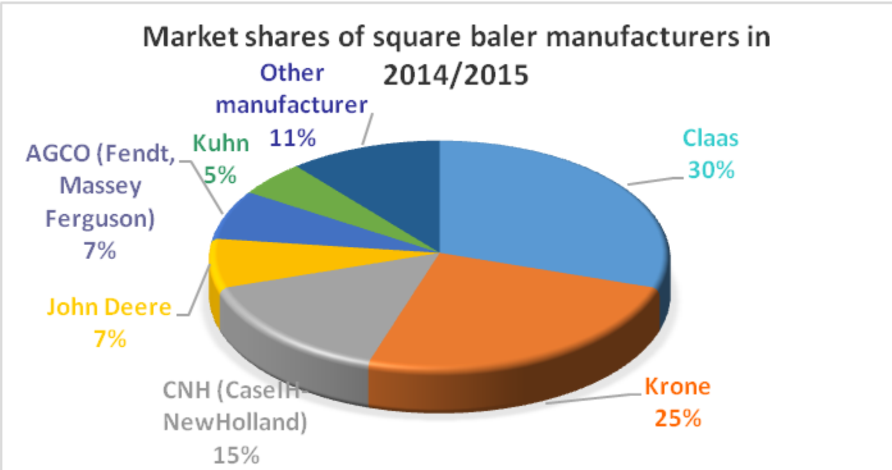
Lely Group. CNH Agriculture engages in cooperation in the manufacture of balers. Deutz-Fahr of Germany, part of the SDF Group, also makes balers. Kverneland, owned by Kubota, sells balers from its Italian Gallignani baler manufacturing base under the names Kverneland, Vicon and Kubota. Most of the remaining manufacturers (Bergam, Ferraboli, Mascar, Maschio, Wollagri etc.) are Italian. See Figure 1.

There are considerably fewer companies – 13 or 14 worldwide – that make the more complicated large square balers. Europe has the greatest concentration of production, with nine manufacturers. There are about 3500–3700 large square balers sold annually worldwide.

The design is based on a machine produced by Hesston (now part of AGCO) of the USA. The two large manufacturers, Claas and Krone, dominate the market in this product group. Claas is the outright market leader, but Krone does not lag it in the range of types and models. Another major manufacturer is CNH Agriculture, which markets several models under both of its brand names, New Holland and Case IH. John Deere recently added large square balers to its product range and is rapidly developing new models. Previously, it sold large square balers made by Krone.

Massey Ferguson has been marketing these products for some time and has recently been joined by Fendt, another AGCO brand. Kuhn also holds a 5% market share. Among the other manufacturers are Deutz-Fahr and several Italian companies, including Supertino and Cicoria. See Figure 2.

Square balers are also tractor-trailed. Depending on size, balers may have single-axle suspension or twin or tandem axle braked suspension, with balloon tyres.

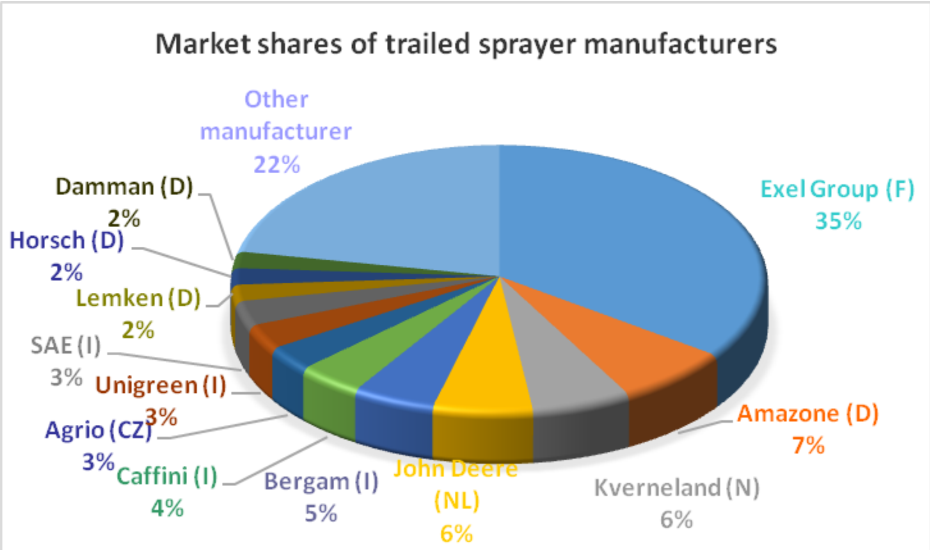


Total annual number of units sold: 3500–700

Figure 2. Market shares of square baler manufacturers

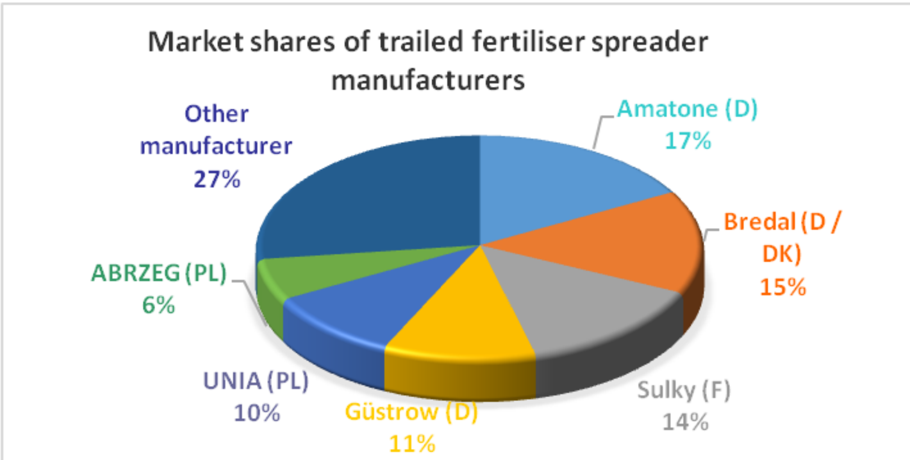
Sprayers are made by more than 80 companies worldwide. They are made in a wide range of constructions (suspended, liftmounted, trailed and self-propelled) and sizes.

In Europe, some 55 manufactures make sprayers (field flat and axial fan, directed nozzle, tunnel, etc.). Most of them make trailed sprayers with single and double axle suspension, with tanks ranging in size from 1000 to 12,000 litres.



Total quantity 22,000 units/year

Figure 3. Market shares of trailed sprayer manufacturers



Total quantity 11,000 units/year

Figure 4. Market shares of trailed fertilizer spreader manufacturers

Trailed and self-propelled sprayers are dominant in agriculture outside Europe (North and South America, Australia, etc.). About 22,000 trailed field and plantation sprayers are sold each year. The most widespread among European small farms are tractor-mounted sprayers of small capacities (between 400 and 1500 litres). The features of trailed sprayers are of benefit primarily to large and commercial farms and agricultural contractors. The largest worldwide manufacturer of trailed sprayers is the French Exel Group, which owns two previously independent brands, one of which –

Hardi – is the clear market leader. Other large manufacturers are Amazone, the Kubota/Kverneland Group, John Deere, the Bargam Group, Caffini, Agrio, the plantation sprayer companies SAE and Unigreen, and more recently Horsch and Lemken. Damman is strong in self-propelled sprayers, but also has a presence with trailed sprayers. See Figure 3.

Fertiliser spreaders are also made in various constructions. Most widespread in Europe are tractor-mounted spinning disc types with tank capacities of between 400 and 3000 litres. Trailed spreaders, with tank capacities of between 3500 and 10,000 litres, are used mainly on large farms and are made in much smaller quantities. In large farms outside Europe, particularly in Australia, trailed fertiliser spreaders are in the majority. About 11,000 of them are sold worldwide each year. Most typically, they have a tank of between 5000 and 8000 litres capacity and single-axle braked suspension. Those with larger fertiliser tanks have braked twin or tandem axles. In Europe, Amazone of Germany is the largest manufacturer, producing trailed single-axle fertiliser spreaders of capacities between 5500 and 8200 litres. Other large manufacturers are Bredal, Güstrow and the French company Sulky, although the two Polish manufacturers UNIA and Abrzeg also have good positions on European markets. See Figure 4.

Global and regional agriculture machinery market trends.

There are cyclical variations in agricultural machinery manufacture. This means that the numbers of units of trailed agricultural vehicles increases in some periods and decreases in others. Agriculture is subsidised in every country of Europe. The cycles are to some extent due to the unequal effects of subsidies, but also to the periodic overproduction, cutbacks and increased demand that arise from the laws of the market.

Overall, the market in agricultural machinery contracted by 9% worldwide in 2015, as shown on Figure 5. The 91 billion-euro turnover exactly matches that of 2011. The recession is clearly perceptible.

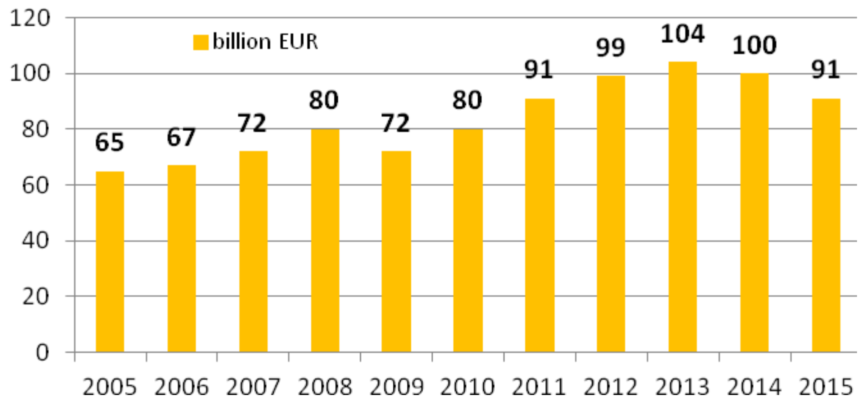


Figure 5. World agricultural machinery turnover between 2005 and 2015. [6]

There has been a steady contraction in the EU agricultural machinery market over the last two or three years. This is clear from Figure 6. In 2015, there was a decrease of 8%: the total value of agricultural machinery sales was 23.8 billion euros that year, compared with 26 billion in 2014. The peak was in the post-recession years of 2012 and 2013, when the EU agricultural machinery market swelled to 26.6 and 26.7 billion euros respectively. The figure for 2015 was the lowest for the EU in the period following the economic crisis of 2009–2010.

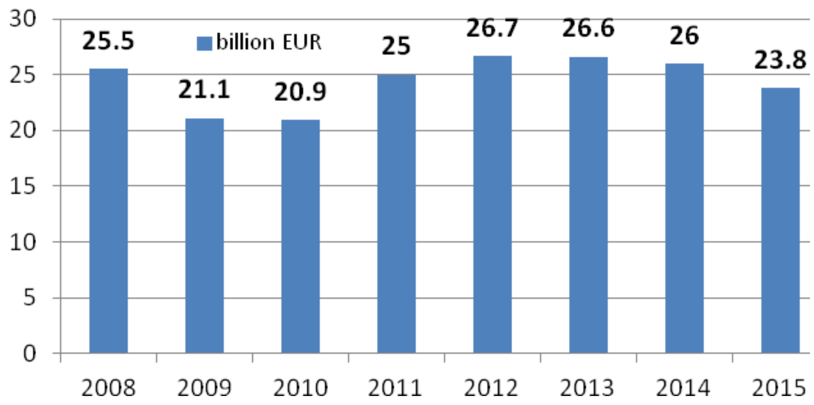


Figure 6. Agricultural machinery turnover in EU countries between 2008 and 2015. [6]

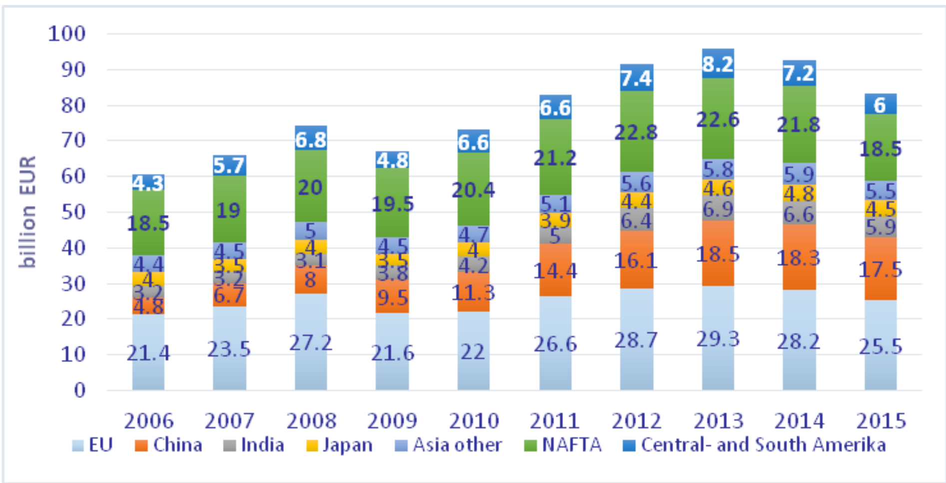


Figure 7. Agricultural machinery manufacturing volume worldwide in billion euros. [5]

A good illustration of global trends in the agricultural machinery market is world agricultural machinery production, shown in Figure 7. Following the crisis of 2009, output grew steeply every year until 2013; it then faltered and entered a decreasing trend. There was stagnation until 2014, but preliminary figures show a major downturn in 2015.

This global trend appears with some phase lag in countries such as Japan and the Asian countries (not including India and China). There, machinery manufacturing reached its peak in 2014 and started to go down only in 2015. Low world price levels are currently being forecast for agricultural commodities, and it can only be hoped that the machinery manufacturing output and the agricultural machinery market, now sunk to 2011 levels, will now stabilize.

CONCLUSIONS

The purpose of our analysis was to determine the European market shares of towed agricultural machinery.

Of the product groups under examination, those with the highest levels of sales in terms of number of units were round balers, trailed sprayers and fertilizer spreaders. There is also a substantial market in large square balers, but rather than the number of units, it is the value of machines sold that is significant.

The market for agricultural trailers and machinery built on trailer superstructures is highly diverse and complex, posing serious difficulties for evaluation and statistical analysis of the data and for determination of actual sales figures. [10]

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PREGLED DISTRIBUCIJE EVROPSKOG TRŽIŠTA VUČENIH BALERA, PRSKALICA I RASIPAČA ĐUBRIVA

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Sažetak: Vučene mašine i prikolice sa različitim tipovima suspenzija imaju veliki udeo u proizvodnji i prodaji poljoprivrednih mašina u Evropi. Ova vučena vozila pokrivaju široki funkcionalni opseg: poljoprivredne prikolice, prikolice cisterne, vučeni rasipači mineralnih đubriva i stajnjaka, prskalice i mikser prikolice za stočnu hranu. Takođe imaju mnogo različitih vrsta suspenzija: tandem, tridem, opružna, kruta, upravljana itd. Od ispitanih grupa proizvoda, oni sa najvišim nivoom prodaje po broju prodatih jedinica su rol baleri, vučene prskalice i rasipači đubriva Postoji i značajno tržište velikih balera, ali ne po broju nego po vrednosti prodatih mašina.

Ključne reči*: poljoprivredne mašine, vučene mašine, prikolica, suspenzija, tržišno učešće*

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