

STUDY ON THE PRODUCTION AND MARKETING OF SOYBEANS WORLDWIDE

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Abstract

This study presents a series of trends in the production and marketing of soybeans worldwide. Soybean is an important crop for modern agriculture because it contains many substances that are necessary for the good functioning of the human body. In order to highlight the main trends in the soybean production and marketing sector, a number of specific indicators have been analyzed. The main indicators analyzed in the present study are: surfaces cultivated with soybean worldwide; global soybean production; average production per hectare of soybeans; human consumption of soya; imports and exports of soybeans worldwide. The indicators presented and analyzed for the 2012-2016 period for the worldwide soybean culture have seen an upward trend. This demonstrates the growing interest in this culture for those involved in the production and marketing of soybeans. All statistical data processed in this study were mainly taken from specialized international sites.

Key words: commercialization; soybean; global soybean production; imports; exports

INTRODUCTION

Soy belongs to the genus *Glycine*, which includes a large number of species. Of these, only *Glycine max* (L.) Merrill is important for culture.

Worldwide, soybean culture is of particular importance because it has diverse uses, such as: for the population's food; for animal feed; for industry etc. The widespread use of soybeans for human nutrition has been driven by the fast population growth worldwide. Due to the numerous uses of soybean culture, it can provide a range of solutions for human nutrition.

Currently, plants such as sunflower, soybeans, rape, hops, sugar beets are increasingly used in the food industry to obtain a wide range of products (Chiurciu, 2015). It is important to remember that soybean shows on one hand agronomic importance and on the other hand economic importance. Soy is a very good precursor for a series of crops, but especially for autumn cereals. This is mainly due to its characteristics that contribute directly and rapidly to the increase in soil quality. After processing the soybeans the following products are obtained: soybean meal; soybean oil; post-extraction soya meal.

Soybeans are especially noted for their high content in: protein substances (up to 50%); unassayed extracts (up to 30%); lipids (up to 22%); vitamins and mineral salts. According to the experts, in the future, soybean can cover the world's protein deficit, on the one hand, to increase the cultivated areas and on the other to increase the production (Soare et al., 2018), (<http://www.azomures.com/newsletter/soia-cultura-de-valoare-agricola-si-alimentara/>,2018),(<https://www.gazetadeagricultura.info/plante/plante-tehnice/471-soia/354-cultura-de-soia.html>,2018),(<http://www.horticultura-bucuresti.ro/images/pdf/Fitotehnie.pdf>,2018), (<http://www.usamvcluj.ro/files/teze/2012/luca.pdf>, 2018)

MATERIALS AND METHODS

In order to achieve this study, statistical data taken from international specialized websites have been used. Also, to objectively capture the major trends in the production and marketing of soybeans worldwide, on the one hand a number of indicators were analyzed and, on the other hand, a wide range of specialty materials were consulted.

The main indicators analyzed in the present study are: total areas cultivated with soybeans worldwide; soybean production worldwide; yield per hectare for soybeans; human consumption of soy; imports and exports made with soybeans worldwide. The indicators of this study were analyzed for the period 2012-2016.

RESULTS AND DISCUSSION

According to statistical data published by FAOSTAT, the area cultivated with soybeans worldwide during the period 2012-2016 registered an upward trend (<http://www.fao.org/faostat/en/#data/QC>, 2018).

In 2016, the largest area cultivated with soybean was 121.5 million hectares. The area cultivated with soybeans increased by 15.3% in 2016 compared to 2012. This increase in soybeans worldwide shows that the farmers have identified the opportunity offered by this crop (see Figure 1).

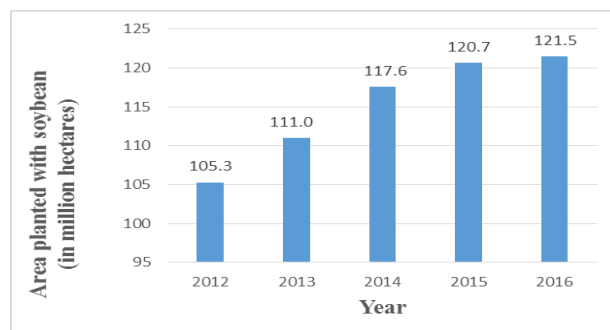


Fig 1. The dynamics of the area cultivated with soybean worldwide in 2012-2016 (million hectares)

Total soybean production worldwide in 2012-2016 has increased from year to year. The smallest soybean production was recorded in 2012 (241.1 million tonnes) and the largest production was 334.8 million tonnes (2016) (see Figure 2) (<http://www.fao.org/faostat/en/#data/QC>, 2018). Global soybean production increased by 38.8% in 2016 compared to 2012.

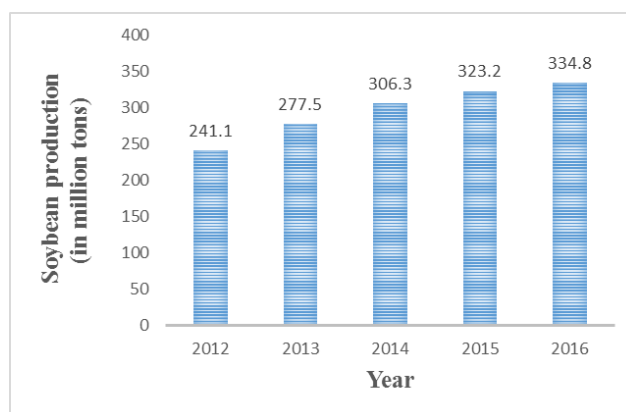


Fig. 2. Worldwide soybean production dynamics in 2012-2016 (million tonnes)

At global level, the United States is the largest soybean producer. According to published data 90% of the soybean production is used for the production of vegetable oil. It is necessary to specify that over 30% of world soybean production is obtained in the USA (<https://www.gazetadeagricultura.info/plante/plante-tehnice/471-soia/19648-liderii-mondiali-in-productia-de-soia.html>, 2018).

According to Faostat data, in 2016 there was the following situation regarding the production of soybeans worldwide: America achieved 86.7% of the world soybean production; Asia obtained 8.6% of total soybean production; Europe had a 3.1% share, and Africa has achieved less than 1% of world soybean production.

The top of the world's leading soybean producers for the year 2016 was the following: United States (117.2 million tonnes); Brazil (96.2 million tonnes); Argentina (58.7 million tonnes); India (14.0 million tonnes); China (11.9 million tonnes); Paraguay (9.1 million tonnes); Canada (5.8 million tonnes); Ukraine (4.2 million tonnes); Bolivia (3.2 million tonnes) and the Russian Federation (3.1 million tonnes).

The average production per hectare of soybeans worldwide in the period 2012-2016 was on a rising trend (see Figure 3). The highest average production per hectare of soybean was in 2016 (2.7 tonnes / ha), and the

lowest was achieved in 2012 (2.2 tonnes / ha). In 2016, the average production per hectare of soybeans registered worldwide increased by 22.7% compared to 2012 (<http://www.fao.org/faostat/en/#data/QC>, 2018).

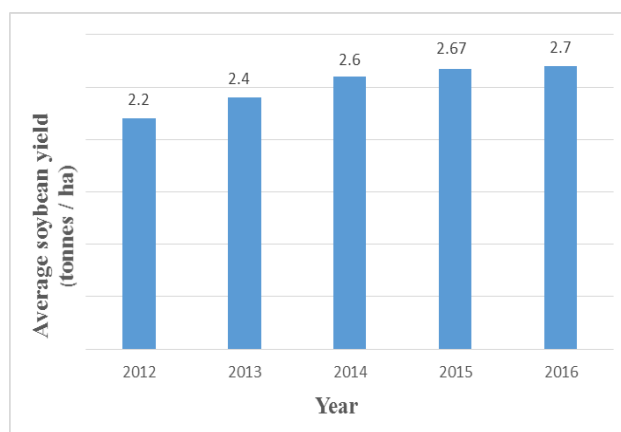


Fig. 3. Average production dynamics per hectare of soybean worldwide in 2012-2016 (tonnes / hectare)

According to FAPRI data, the amount of soybeans consumed by the population increased each year during the analysed period. The highest soybean consumption was 17,122.66 thousand tonnes (2016), and the lowest consumption was registered in 2012 (16,604.82 thousand tonnes) (<http://www.fapri.org/tools/outlook.aspx>, 2018).

Between 2013 and 2016, the soybean imports worldwide have seen year-on-year increases. The most substantial soybean imports were registered in 2016 (135.1 million tonnes). On the opposite pole, the smallest amount of soy imported was in 2013 (104.5 million tonnes) (see Figure 4).

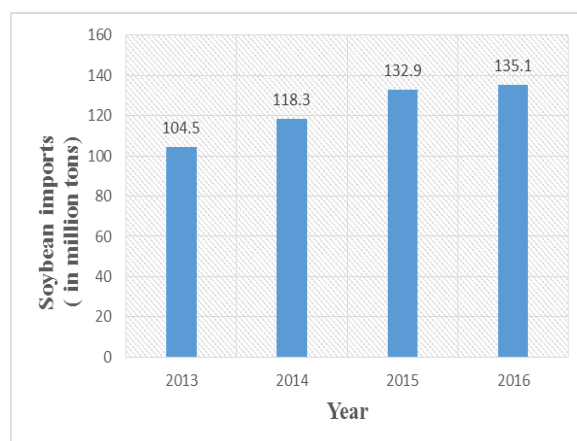


Fig 4. Dynamics of soybean imports worldwide

in 2012-2016 (million tonnes)

In 2016, the global soybean imports increased by 29.2% compared to 2013. In 2016, the world's largest soybean importers were: China (83.9 million tonnes); The Netherlands (4.6 million tonnes); Mexico (4.0 million tonnes); Spain (3.2 million tonnes); Japan (3.1 million tonnes); Germany (3.1 million tonnes); Thailand (2.9 million tonnes); Indonesia (2.2 million tonnes), etc. The value of soy imports in 2016 was US \$ 55,763,637. (<https://www.trademap.org>, 2018).

Soybean exports worldwide showed a positive trend in 2013-2016. The largest soybean exports on the international market were 136.6 million tonnes in 2016. In 2012, the world's lowest soybean exports were 106.5 million tonnes (see Figure 5) (<https://www.trademap.org>, 2018).

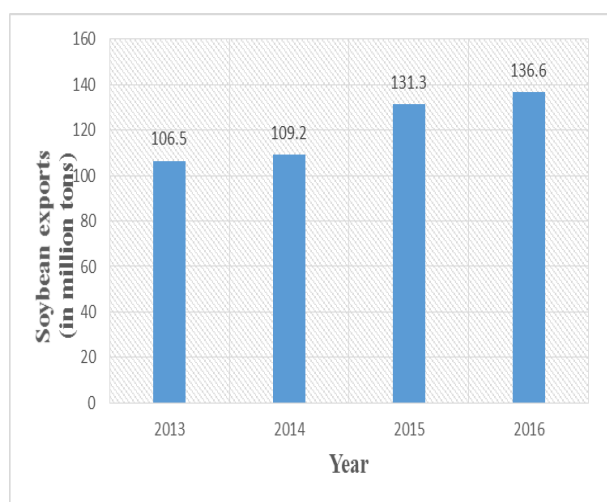


Fig. 5. Dynamics of soybean exports worldwide in 2012-2016 (million tonnes)

Soybean exports increased by 28.2% in 2016 compared to 2013. In 2016, the world's largest soybean exporters were: United States of America (57.8 million tonnes); Brazil (51.5 million tonnes); Argentina (8.9 million tonnes); Paraguay (5.3 million tonnes); Canada (4.4 million tonnes); Ukraine (2.7 million tonnes); Uruguay (2.2 million tonnes); The Netherlands (1.1 million tonnes); Russian Federation (422,704 tonnes), etc.

In 2016, the value of soy exports was US \$ 52,591,964.

CONCLUSIONS

Nowadays, soybean culture is highly appreciated worldwide. The basis for this statement are the following aspects that have been highlighted by specific indicators for the period 2012-2016:

- The area cultivated with soybeans worldwide increased in 2016, by 15.3% compared to 2012;
- The largest areas cultivated with soybeans belong to the United States of America;
- In 2016, a worldwide production of 334.8 million tonnes of soy was obtained;
- America obtained over 20% of the world soybean production in 2016;
- The three most important actors in soybean production in 2016 were: United States of America (117.2 million tonnes); Brazil (96.2 million tonnes); Argentina (58.7 million tonnes);
- In 2016, the most significant average production per hectare of soybean, namely 2.7 tonnes / ha was registered;
- Regarding the world's soybean consumption, the year 2016 (17,122.66 tonnes) was noted;
- Worldwide soybean imports increased by 29.2% in 2016 compared to 2013. The world's most representative soy importer is China;
- Worldwide soybean exports have registered annual increases. The US is the world's largest soy exporter;
- In 2016, the value of soy exports was US \$ 52,591,964;
- In the future is expected the soybean culture to expand globally;
- The highest average production per hectare of soybean was in 2016 (2.7 tonnes / ha).

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