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IMPORTANCE AND TENDENCIES OF THE WHEAT SECTOR

Abstract:

In the present paper, we try to give a general picture about World importance and present tendencies of the wheat sector. Firstly, the global wheat production is introduced. The area of wheat production did not change in the last twenty years, thus we can claim that wheat was produced stably on about 200-225 million hectares yearly from 1990 to 2013. However, the quantity of wheat increased a bit on the global level due to the fact that the global yield of wheat improved in the last twenty years by 0.5 tonne per hectare. Afterwards, we talk about TOP15 wheat exporter countries. There was no significant change among these target countries in the last ten years.

Keywords:

wheat, export, import, trade, crop production

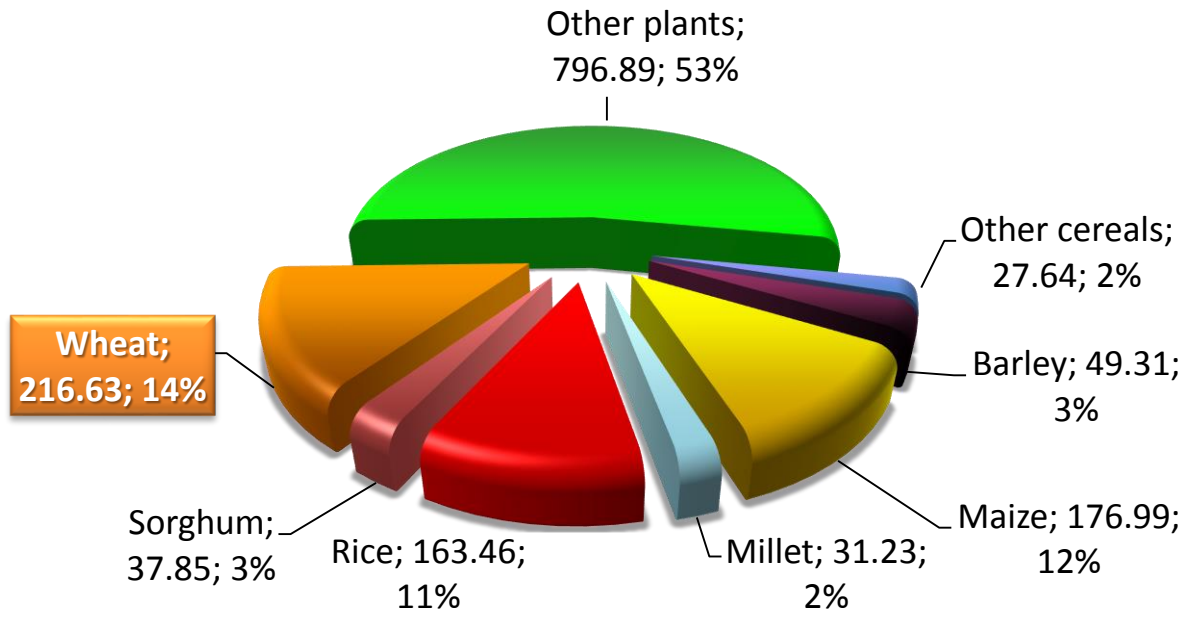
General introduction

Based on FAO-OECD data it can be clearly seen that 47% of the global arable landsare used for cereal production. The most important cereals are maize, rice and wheat, which have a 37% ratio of the global arable lands (FAO - OECD, 2013).

Wheat has the highest ratio among the cereals with 216.6 million hectares (14% of the global area used for plant production). Based on FAO-OECD data, the ratio of the three main cereals seems to be stable in the average of several years. There are no significant changes in the production structure forecasted. In addition to the above mentioned ratio of wheat rice and maize are also considered significant. The global ratio of other cereals is below 5%.

Figure 1: Division of the sowing area in the World in 2012

(in million hectares and percentage)



Source: FAO - OECD, 2015

The role of wheat production in the world economy is significant both in terms of cultivated land and food supply, feeding and commerce. There is 1500 million hectares of land in cultivation on the global level. Wheat was produced on 225 million hectares in 2009 worldwide and it meant 681 million tonnes. According to KISS-BENCZE, significant changes are not expected in the sowing structure in the future (KISS-BENCZE, 2012). There is 1500 million hectares of land in cultivation at the global level. Wheat was produced on 225 million hectares worldwide in 2009 and 681 million tonnes Meant it. According to KISS-BENCZE Significant changes are not expected in the Sowing structure in the future (KISS-BENCZE, 2012).

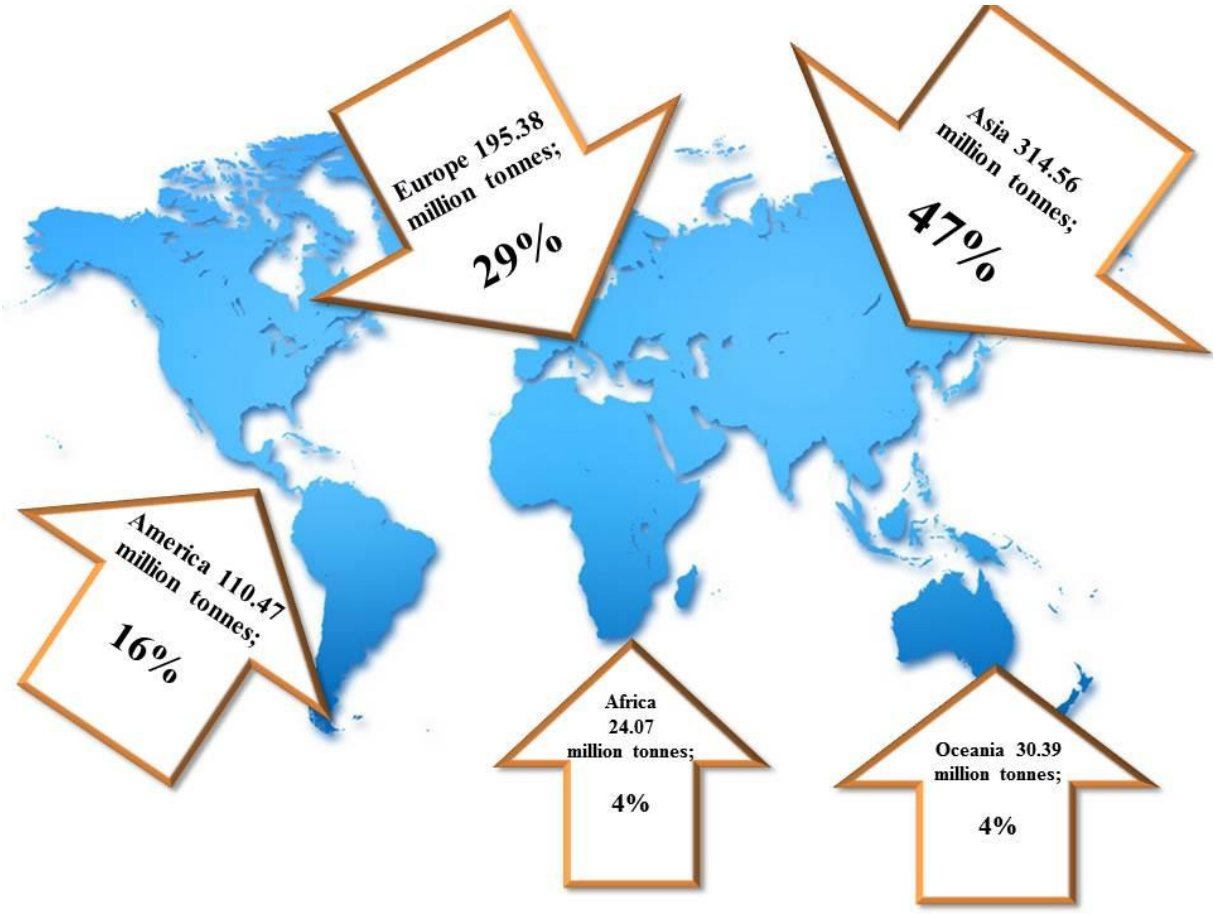
The top players of wheat production

Figure 2 demonstrates the 2011 global wheat production area by region. According to the FAO-OECD, the highest amount of wheat - some of 314 million tonnes - was

produced in Asia, while Europe was ranked at the second place with 195 million tonnes.

America produced 110 million tonnes in the studied year (FAO - OECD, 2013). In terms of crop areas: wheat was produced on 101 million hectares in Asia, on 54 million hectares in Europe, and on 36 million hectares in America. Africa produced the least wheat, i.e. merely 24 million tonnes on the whole continent, which is caused mainly by the small production area – only 10.2 million hectares in 2012 – and the low average yields should be mentioned as well.

Figure 2: Global wheat production by region in 2012



Source: KISS, 2014

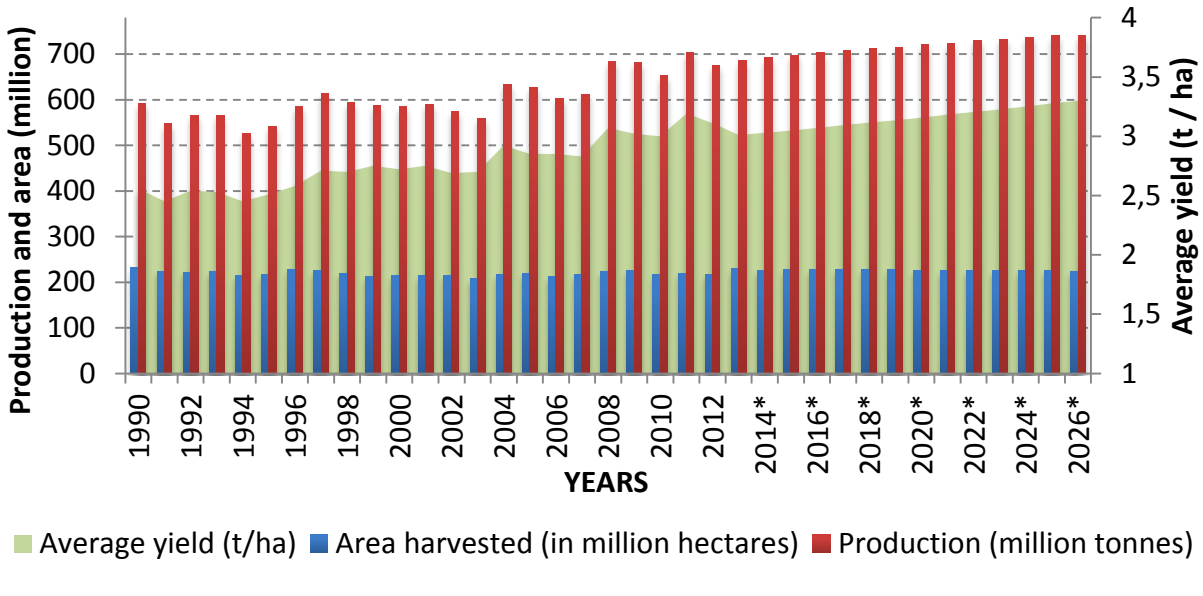
Figure 3 demonstrates the major indicators of the global wheat production between 1990 and 2026. There are no significant differences in the case of harvested area regarding each year. „The world population grew by 50% in the last 25 years, while the per capita cultivated area shrank drastically (per capita cultivated area was 0.5 hectare in 1950, and is projected to be only 0.1 hectare by 2050)" (HOLB, 2009).

By the end of the first decade of the 2000s, this number was about 3 tonnes, while in 2011 the global average yield was 3.19 tonnes per hectare, which is compared to the base yearcorresponds to 25% growth. Furthermore the generated yield exceeded 700 million tonnes in the world first time in this year, which is19% more compared to the production in 1990 (FAO - OECD, 2013). The increase in the average yield was

similar in the previous decades also, since we can talk about a significant improvement realized since 1960 (GOLLIN, 2006; GOLLIN, 2006b; FERRIS, 2013). The calculations of LIN - HUYBERS also showed an increase of yields, however, they found that the rate of growth is declining (LIN - HUYBERS, 2012). The size of the cultivation areas may not increase significantly in the future, so the trend of increasing yields is understandable and justified in light of the FAO - OECD prediction that the world's population by 2050 will reach 9 billion people.

Figure 3: Wheat production between 1990-2026

(in million hectares, million tonnes and tonne / hectare)



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prognosis for 2014-2026

*Source: FAO – OECD, 2013 and *FAPRI, 2014 FAO - OECD, FAPRI 2013 and * 2014*

“There is a little increase in yearly crop yield comparison to the year 1990. The reason for this is not in development of sowing area, but the slow and successive increasing of the average yield. Average 2.5 tons wheat was produced on one hectare crop land in the world in the first half of the ‘90s, however this value was about 3 tons in 2009” (KISS, 2011). “In addition, according to some projections the potential yield per hectare might reach the level of 3.5 tons by 2025. Fulfilling this projection is essential if the world population is to be supplied with sufficient amount of food. In this respect it is good news that this yield might be achieved thanks to the genetic potentials of the crop” (KISS-BENCZE, 2012).

“The question is how long the current level of consumption can be maintained by increasing the yields! We believe that the sector can grow, considering that the average yield was about 3 tons/ha in the world in 2009, and this plant has a much larger genetic potential. Nonetheless each country can exploit it differently due to the different climatic conditions. In Hungary an average yield of 6 tons per hectare can be considered extremely good, whereas in the United Kingdom even an average yield of 10-12 tons per hectare is not rare” (KISS-BENCZE, 2012).

However, we have to emphasise that the produced quantity increased a bit. The reason of this growth was that the yield of wheat increased on the global level. It was 2.5 tonnes per hectare in 1990, but it reached 3 tonnes per hectare by the year of 2009. According to KISS-BENCZE, yields will continue to increase in the future, because there is a larger genetic potential in this crop (KISS-BENCZE, 2012).

The amount of the harvested area of wheat is stable, because there was no significant change. To sum it up, we have to mention that the role of wheat production in the world will not decrease in the future. There is 1500 million hectares of land in agricultural cultivation in the world, and the share of the wheat within the total agricultural area is 15%. This rate did not change in the last twenty years.

“From social point of view, the current consumption level of grains is not sustainable unless increasing the yields. To increase the yields, it is essential to ensure the maintenance of profitability for the producers. Better yields require higher level of inputs, which entails higher costs, but from economic point of view, an unprofitable sector is not sustainable in the long run. At present, the price of wheat is far higher than before, but production costs have also increased. High prices are integrated in food prices as well, which makes it also difficult to preserve the sustainability of the consumption levels” (KISS-BENCZE, 2012).

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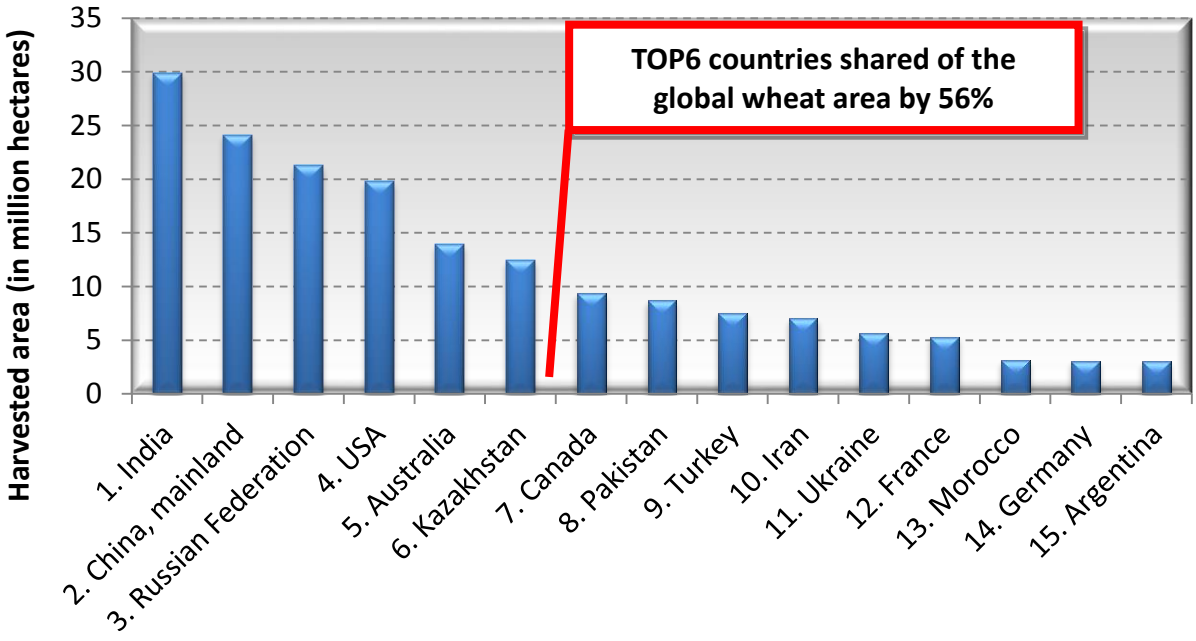
Figure 4: TOP15 wheat producer to countries ranked *by area* in 2012

(in million hectares)



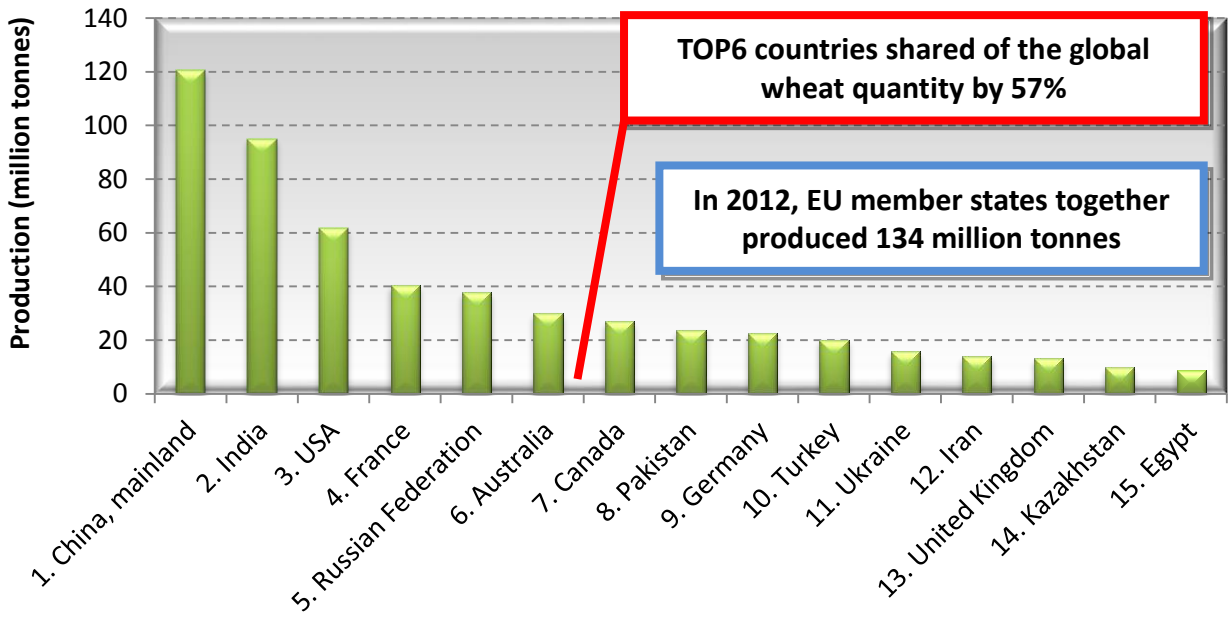
Source: FAO – OECD, 2015 FAO - OECD, 2015

A closer look at the country rankings provides a more accurate picture of the global importance and the top players of wheat production. In 2009, based on the the ranking of area share, the top 10 countries in the world were as follows: India, Russia, China, USA, Kazakhstan, Australia, Canada, Pakistan, Turkey and Ukraine. Nearly 73% of the global wheat production area - approximatly 160 million hectares - was in the above mentioned 10 countries. If the EU as a whole is in the comparison, then in 2009 with 25.6 million hectares of wheat growing area it will be the third in the ranking (FAO - OECD, 2011 KISS in 2011). The 2012 ranking is be similar, 56% of the global wheat growing area is located in the TOP6 countries.

Figure 5 illustrates the largest wheat producer countries. This ranking was compiled on the basis of the produced quantity. It can be clearly seen, that the quantitative ranking of countries is somewhat different from the area ranking. The different production level of the countries can explain this disparity.

Figure 5: TOP15 wheat producer countries ranked *byproduced quantity* in 2012

(in million tonnes)



Source: FAO – OECD, 2015 FAO - OECD, 2015

The FAO-OECD data on production volumes displays a tendency showing that 2009 the TOP10 countries claimed 70% of the global wheat production, i.e. the global wheat sector can be considered concentrated in terms of output quantity as well. The top actors of global wheat production between 2000 and 2009 had been the same with some differences (KISS, 2011). Not any significant ranking change can be observed related to the different years. Based on production quantities, TOP5 wheat producers 2011 were the following countries: China with 117.41 million tonnes, India with 86.87 million tonnes, Russia with 56.24 million tonnes, the United States with 54.41 million tonnes and France produced with 38 million tonnes (FAO - OECD, 2013). An increase in the average yield in China is expected, since wheat is a very important commodity in China as well (CAI et. al, 2011). Hungary is ranked 25th in the world in 2009, based on the yield obtained. Hungary's position can be considered relatively stable in the period between 2000 and 2009 : the country ranking had been switched between 20th and 25th regarding to the production quantities. Hungary is not a dominant actor in the global wheat production, since it has serious competitive disadvantages (Kiss, 2011).

Figure 5 illustrates the ranking of the EU-27 member states based on the 2012 wheat production. According to FAO-OECD, 2012 the European Union produced 134 million tonnes of wheat, 85% of this was the ouput of the top 10 wheat producing EU members (FAO - OECD, 2013).

World trade of wheat

Quantities on the world market

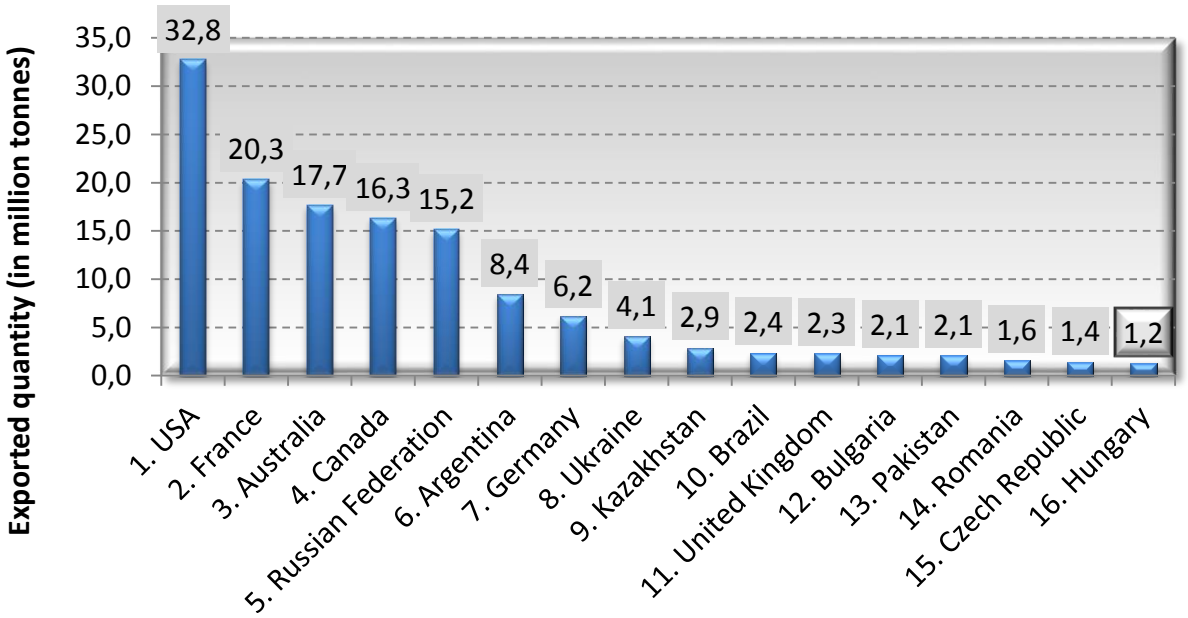
About 560-704 million tonnes wheat was produced in the world annually between 2000 and 2011. The global yields displayed a clear growing tendency, which lead to an increase of qunatities in the world trade in the studied period as well. The total wheat export in 2000 was only 117 million tonnes and stagnated, however, it declined to 109 million tonnes by 2003, but then a clear increase was to observe. The drought losses caused by the extreme weather played a significant role in the through of 2003. 2011 the global wheat export reached 144 million tonnes, which means nearly 23% growth compared to the 2000 base year. The increase or stagnation of the annual exports is closely linked to the annual wheat production.

Top Exporters

The 2010 exported 144 million tonnes wheat seems to be sharp, however, the export performances of only a dozen countries account for the overwhelming majority of these exports. This demonstrates a very **concentrated wheat world market** – similar to other crops. According to*Figure 6* showing the exports by country breakdown, it is clear, that **the largest exporter** 2010 was also the **USA**.

Figure 6: TOP15 wheat exporters and Hungary ranked by Exported Quantity in 2011

(in million tonnes)



Source: FAO – OECD, 2015 FAO - OECD, 2015

It should be noted that this statistic does not focus on the European Union, which member states individually play a significant role in world wheat trade as well. However, it can be concluded that the **EU** was the **most** important wheat **Exporter** in 2010. The **European Union** member states together exported 50.6 million tonnes of wheat, which is **almost the double** of the US exports. Additionally, it is also true that

the above mentioned statistics does not show the EU's significance on the cereals world market, because the individual exports may also overlap in many cases due to intra-Community trade. **The TOP3 exporter** country together sold 67.1 million tons of wheat outside the borders in 2010, which is **46.59%** of the global wheat exports. This ratio illustrates fairly well the concentration of wheat trade.

Considering **TOP5 exporter** countries, the level of concentration shows an even more surprising picture: the TOP5 exporter account for **94.8 million tonnes** wheat export, i.e. **65.83%** of the global wheat commodity market.

Ukraine and Russia occupies a prominent place in the 2010 ranking of wheat exporting countries, the global market position of these two countries can be considered stable in average of several years also. In their case is no decrease expected, however, their global role and influence is forecasted to grow even more in the future. *"... There will be very serious rearrangements on the on the global market for plant products in the future, when Ukraine and Russia learn produce effectively and good quality on their growing areas, which otherwise have good fertility. The capital has been available for many years, and it is only a matter of time to acquire the knowledge, making them possible to "quake" many countries position in the global market for plant products "* (*KISS, 2012*). The years of capital investment has already some effects, although the East crisis has now somewhat dampen the Ukrainian-Russian crops worldwide market penetration.

Kazakhstan is another major exporter. Wheat is dominant in the countries production structure. The country produces around 12-14 million hectares of wheat, providing it a place among the top wheat producers on the world. Wheat is grown on **60-70% of the cultivated area**, which is not surprising, since the agro-ecological conditions for spring wheat and winter wheat given are given as well. Other plants are produced in Kazakhstan on much smaller areas. For example maize is produced only on 100 thousand hectares, while sunflower on 822 thousand hectares. However, 2010 they were the seventh largest wheat exporter in the world, in spite of the very low yields. The average Kazakh wheat yield **was around 0.6 to 1.6 tonnesper hectare**, while the world average in the last ten years, respectively, had been higher than the 2.8 to 3.2 tonnes/hectare value. Each year **3-6 million tonnes** of the produced**14 million tonnes of wheat** leaves the country. December 2013 the Kazakh wheat shipments headed to China, as there has been a growing demand. This could be a new market for the country, as 2011, merely 13.4 thousand tonnes of Kazakh wheat was sold to Chinese customers, while 556 thousand tonnes to Azerbaijan. However, it is also true, that the Caspian Sea is located between Azerbaijan and Kazakhstan, which provides much cheaper transport than the mainland to China.

Hungary reached the 16th place in the global wheat export ranking 2010, despite the relatively small area. This is generally a nice result, but it associated with a merely **1.45%** market share, although the Hungarian cereal production is quite export-oriented (FEHÉR - KISS, 2013).

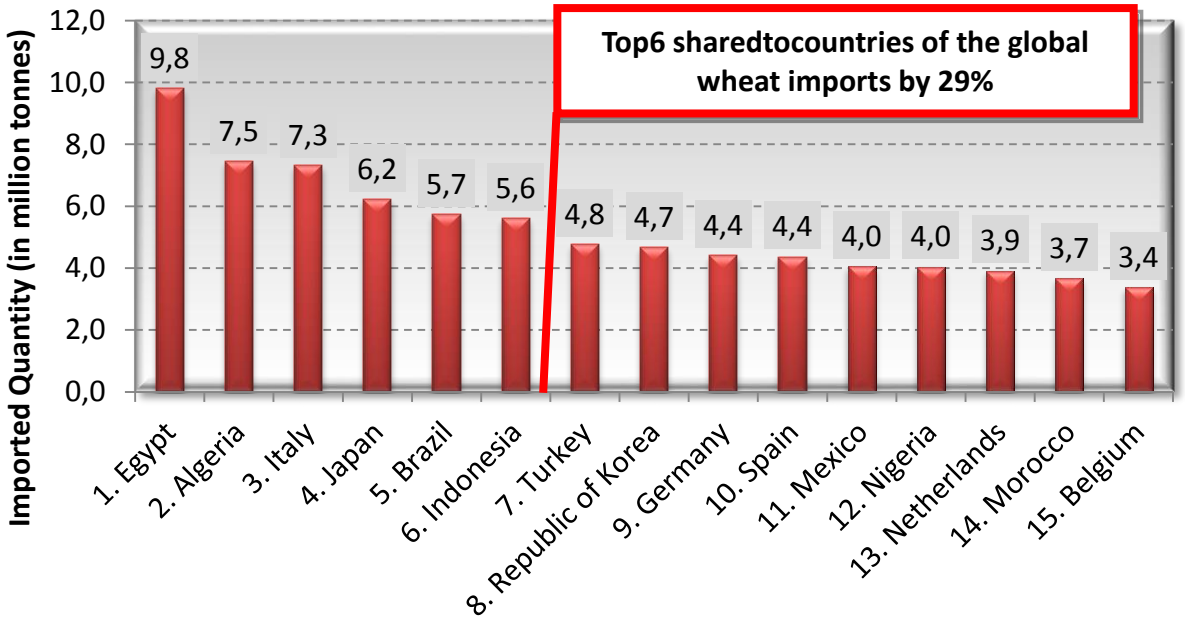
Who will buy the wheat?

Focusing on the **TOP15** wheat importing countries it can be said, that the global wheat demand – considering the importing countries demands and import quantities – is **less concentrated** than the supply.

2010 **the TOP15** importing countryimported totally**75.7 million tonnes**of wheat, **52.56%** of the total world imports. In contrast, the TOP5 exporters share of total exports exceeded 65%.

Figure 7: TOP15 wheat Importers ranked by Quantity imported in 2011

(in million tonnes)



Source: FAO – OECD, 2015 FAO - OECD, 2015

Therefore, these countries have also weaker bargaining position, which is caused partly by the focused supply, furthermore by the demand oriented changes on the cereals world market in the past few years forcing the buyers to accept price-taking strategies. Nevertheless, these countries have a large influence on world prices. The reason behind this is that the non-self-sufficient importing countries - such as Egypt – buy suddenly large stock in order to ensure the population's food supply. The cereals infrastructure has been continuously developing in the land of the pharaohs, which may be good news for the Hungarian production. However, these developments aim the **reducing** of the countries **import dependence,** thus, reducing the risks arising from price fluctuations.

Conclusion

- The yields of the global wheat are increasing in, but there are some Countries Which Contain Their yields Relevant Reserves.
- Importance of some Countries will in- crease in the future.

- Hungary ranked at 16th place Exported by Quantity, but the English wasn't Significant Quantity in global aspect.
- There will be very serious rearrangements on the on the global market for plant products in the future, when Ukraine and Russia learn produce effectively and good quality on their growing areas, which otherwise have good fertility. The capital has been available for many years, and it is only a matter of time to acquire the knowledge, making them possible to "quake" many countries position - including Hungary - in the global market for plant products " (KISS, 2012).

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