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## **The comparative study of wheat growing results in Hungary and Austria**

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### **SUMMARY**

Hungarian agricultural production plays a significant role in the preservation of rural areas, in its sustainable development, and in lessening the regional differences. The value of our agricultural sector is primarily provided by the combination of favourable climate, good natural makings and growth traditions. The effectiveness of our crop growing greatly depends on our most important plant cultures such as for example the results wheat growing. In our country wheat growing has a traditional importance in the plant growing branch since centuries, it is grown on most farms.

The basic purpose of our analytic work was to compare the results of wheat growing based on the production results collected by us concerning wheat growing in Hungary and Austria. Based on the comparative study we can say that in Hungary wheat is grown on an area five times as large as that in the neighbouring Austria. During the course of the study we concluded that in the two countries, the Austrian production averages per area unit are 29.30 percent higher on average. The unfavourable effect of the weather in the year has caused a significant shortfall production wise.

In the case of Hungarian farmers it also caused a significant loss of income from their farms. As opposed to this, Austrian farmers weren't particularly hard hit by the production shortfall because the Austrian procurement prices are higher than Hungarian average prices. It would greatly aid the income and competitiveness situation of Hungarian farmers if they were to receive an agricultural subsidy that is on a par received by Western European farmers.

In Hungary the seed planting areas of staple cereals will not decrease due to tradition, but the distribution of the seed planting areas between particular staple cereals will change, depending on the procurement price and sale options. To prevent difficulties in sales from re-occurring it will be important to raise the domestic grain use, besides keeping up intervention buying up. In our opinion, this latter option can be realized primarily with

the expansion of live stock, and the increase of processing/use of staple cereals for food industry and energy oriented processing/use.

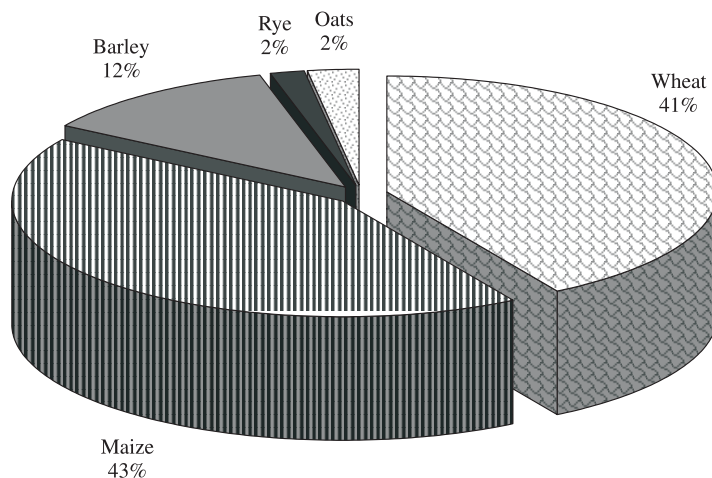
**Keywords:** wheat growing, Hungarian and Austrian wheat growing results, competitiveness.

## INTRODUCTION

Hungarian agroecology is one of the defining sectors of our national economy. The previous balance between plant growing and livestock farming has disintegrated and at present plant growing plays the dominant role. Nearly 40 percent of national plant growing's production value is represented by cereals (Alvincz *et al.* 2003). The ratio of cereal planting area in Hungary has continuously grown in the area of field plant growing since the change in the political regime and it has approached 70 percent in the last years (Popp *et al.* 2005). The division between growing fields of the particular cereal's is shown in *Figure 1*.

*Figure 1.* The percentage ratio of cereal planting field areas in Hungary in 2005

Source: KSH (2007)



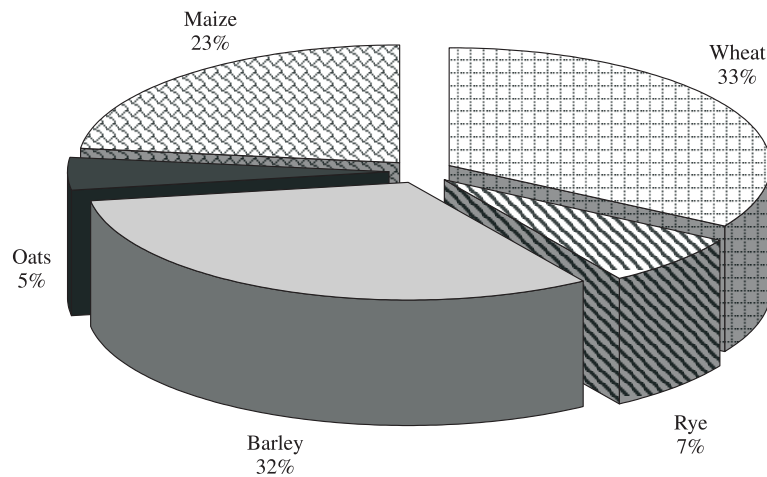
As shown in *Figure 1*, wheat is the staple cereal grown in a planting area that is second to corn only, and it has claimed 41 percent of the planting area during the period examined in this study.

The importance of wheat growing is due to the fact that it plays an important role both in forage and in food industry. We use approximately 3 million tons of wheat each year for forage and consumption. In the years of abundant crop the exported quantity may reach 1.5–2 million tons. (Kovács *et al.* 2003).

Similarly to Hungarian staple cereal growing has significant traditions in Austria as well, the most important growing areas include Lower Austria, Burgenland, Upper-Austria and

Steierland. Considering the geographical and agroecological traits Lower Austria's and Burgenland's growing areas are the most suited for quality and premium wheat growing. In Upper Austria mill and forage wheat is grown primarily, whereas in Steierland-due to its less favourable natural conditions mainly forage wheat is produced.

Figure 2. The percentage division ratio of wheat planting areas in Austria in 2005  
Source: Eurostat (2006)



According to the data shown in *Figure 2*, out of the staple cereal crops grown in Austria 33% is wheat, second most grown cereal is barley with 32, and corn comes only third with 23%. During our research we collected data through secondary data collection. When examining the Hungarian index numbers and when coming to our conclusion we have primarily relied on the data *KSH* (Central Statistics Bureau, 2007), *FAO* (2000–2006), and the *AKI* (Agroeconomy Research Institute, 2000–2005). The Austrian data were provided by the Upper Austrian Agrochamber, *Agrarmarkt Austria* (2000–2006) and *Eurostat* (2006).

### EVALUATION OF RESULTS

The domestic wheat growing area has always exceeded 1 million hectares with the year 1999 excepted. When comparing the data of the two countries we can conclude that the Hungarian planting area is generally 5 times larger (1.3–1.3 million hectares) than the Austrian (*Figure 3*).

*Figure 4*, shows the development of yield averages between 1997 and 2005 and we can conclude based on the examined data that the Austrian yield averages (4.5–6 t/ha) were higher than the Hungarian average, yet at the same time the quality of Austrian wheat was generally poorer than that of Hungarian wheat.

Figure 3. The planting area of wheat in Hungary and Austria between of 1997–2005 (hectare)

Source: KSH (2007), Agrarmarkt Austria (2000–2006)

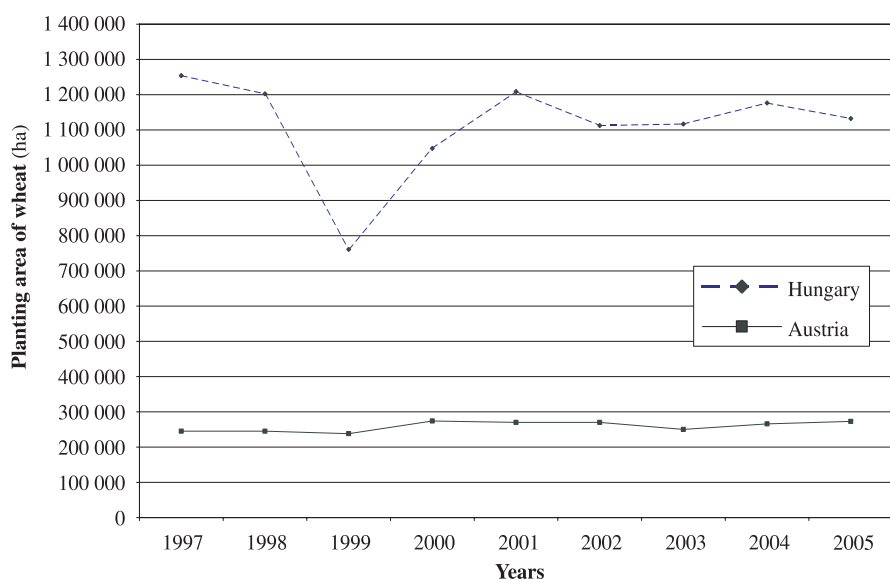
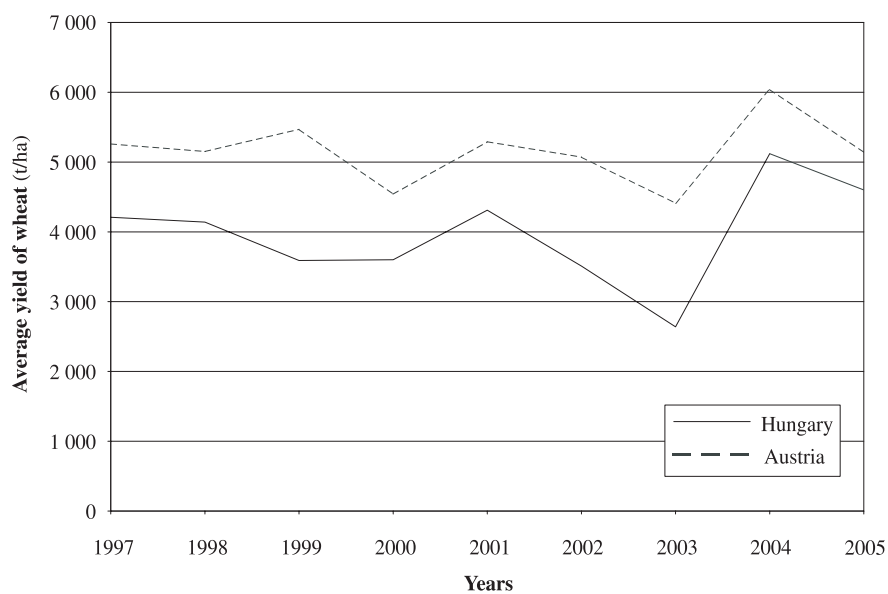


Figure 4. Wheat yield averages between 1997–2005 (ton/hectare)

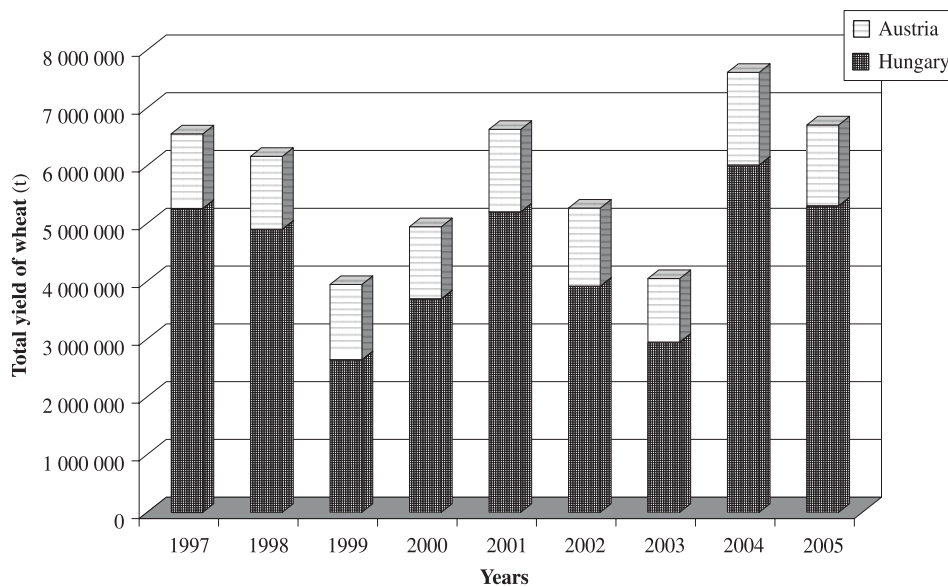
Source: KSH (2007), Agrarmarkt Austria (2000–2006)



In our country the extremely low total wheat yield (2.6 million tons) in 1999 was caused besides the reduction of planting area, by the low yield average, has influenced the Hungarian wheat market significantly. By the beginning of the harvest season in 2000, the country's wheat stock was practically reduced to nil. The yield average was just 2.5 ton per hectare in 2003 due to the droughty weather conditions.

Figure 5. shows the development of the total yield quantity of wheat. The Hungarian data show the yield fluctuations caused by weather factors very well, because of which the effectiveness of wheat production is unpredictable in most cases. In 2001 we reached a yield which was greater by 2558417 tons than in 1999. In 2002 however the harvested yield has decreased by 18–20% when compared to the previous year, which may mainly have been caused by the fact that the sale of the produce proved to be sluggish earlier, thus those who made their living from agriculture were often compelled to sell the cereal at a lower price.

Figure 5. The total yield quantity of wheat between 1997–2005 (tons)  
Source: KSH (2007), FAO (2000–2006), Agrarmarkt Austria (2000–2006)



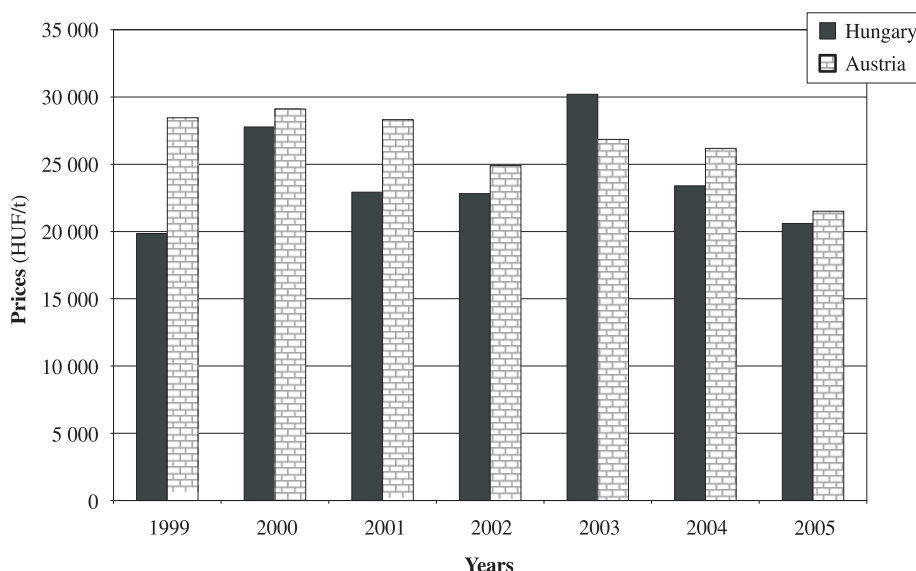
The weather conditions of the year 2002, the durative low price level and poor demand have caused significant losses to Hungarian economy. In 2003 domestic wheat yield has failed to reach 3 million tons (in the researched period this has only happened twice: in 1999 and in 2003).

In 2004 nearly 17 million tons of cereals were grown in Hungary – 6 million tons out of this was wheat – this quantity almost did it for the domestic impossible-because its sale and storage have raised never before seen problems. The near-record yield quantity brought along the drastic reduction in prices.

According to the year 2000's data sequence of the Agroecology Research and Information Technology Institute (known as Agroecology Research Institute today) the acceptance price of wheat was 20 thousand HUF/ton at the end of 1999, while in April–May 2000 merchants bought the wheat at a price of 27 thousand/HUF/ton.

In the examined period the Austrian prices were higher than the Hungarian domestic prices with the year 2003 excepted. At the beginning of 2003 the prices were on the 2002 level (HUF 22–23 thousand) followed by a significant increase after harvest due to the market shortage, and the produce per unit price has exceeded 30 thousand HUF (*Figure 6.*).

*Figure 6.* The average acceptance prices (HUF/ton) for wheat between of 1999–2005  
*Source:* KSH (2007) and AKI (2000–2005) data sequences and own calculations based on the data of *Agrarmarkt Austria* (2000–2006) and the foreign currency rates of the Hungarian National Bank



## CONCLUSIONS

As a result of the comparative study we can say that Hungary's wheat growing capacity is essentially better than Austria's. The quality of Hungarian wheat is in the majority of cases more favourable than the quality of Austrian wheat. Hungarian wheat is used mainly as enhancing wheat by Western-European buyers. During the examination of the data we have come to the conclusion that when it comes to the two countries, the Austrian yield averages generally exceed Hungarian yield averages when it comes to yield per wheat growing area. The lower Hungarian yield averages can be explained by the Hungarian farmers plant metal sealed grains in smaller quantities, neglect the necessary nutrition top-ups out of necessity, and drought is becoming ever more frequent.

The unfavourable development of the weather may cause significant yield drop-outs in the growing of the examined culture plant both in Hungary and in Austria. In the case of Hungarian farmers the yield drops out caused a significant shortage of income too in their farming. As opposed to this, drop outs in yield do not cause particular problems to the Austrian farmers because the acceptance prices of Austrian wheat are higher than the average Hungarian acceptance prices. In the years which were unfavourable from an agricultural point of view (e.g.: 2004 at the time of the record yield) most losers were from among the small and medium growers, whose financial options were usually limited (cover, loan, capital provision) and their trade relations are also lacking.

The income situation and competitiveness of Hungarian farmers would be significantly helped if they would receive an agrarian subsidy equal to that received by their Western-European counterparts. It is well known, that Hungarian farmers did not get the so called direct payments in the years after Hungary joined the European Union, and still do not receive the entire amount of the so called direct payments, in the beginning they only received 25% of the subsidy, which could be raised to 55% through national subsidy by the Hungarian Government. Hungarian farmers will only receive the full direct payments from 2011.

By becoming EU members in 2004 Hungary has joined the Common Agricultural Policy system too. In the case of staple cereal market the most important step was the introduction of the intervention system. The importance of the intervention system in Hungary can be emphasised by the quantity and ratio of the staple cereal offered. Due to the favourable intervention price one quarter of our total corn and wheat production was put under intervention.

Due to the huge internal market subsidies, the export subsidies and the intervention system cereal surpluses were piled up in the European Union, and their use and sale is becoming increasingly more costly for the Union. A double subsidy system has developed on the cereal market, on the one hand growers were supported directly (in the form of direct payments) to produce, on the other hand they tried to handle the produced surplus with intervention and export subsidies. Consequently, the intervention system so favourable to Hungarian farmers will be radically amended in the near future (the intervention price can decrease further; the regulation may not be applicable to certain cereals any longer). Farmers will have to get used to the idea of production of bio-mass fuel produce as a new possibility. Despite the fact that the production of bio-fuel today is still expensive, international estimates show an increase in their use.

Due to the favourable yield averages of the past years cereal surpluses have piled up and one solution to this problem may be strongly expanding the bioethanol industry. Another reasoning in favour of it besides the certain recipient market is the 45 EURO/hectare energy plant subsidy which newly joined member countries can apply for from 2007. As a further advantage it must be mentioned that in the bioethanol-production long-term contracts can be counted upon, thus the profitability of production will be much more calculable, that is to say, the long term utilization of agriculturally cultivable areas.



On the whole we can conclude that the planting area of staple cereals will not decrease in Hungary in the years to come due to traditions, but the area and total yield quantity and ratio between the particular cereal types will essentially change, depending on acceptance price and sales possibilities. In order to avoid sales difficulties, besides retaining intervention buy-up it will be important to raise the level of domestic staple cereal consumption. In our opinion this can be achieved primarily by the expansion of live stock, and the increase of processing/use of staple cereals for food industry and energy oriented processing/use.

### **A magyarországi és az ausztriai búzatermesztési eredmények összehasonlító vizsgálata**

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#### **ÖSSZEFOGLALÁS**

A magyar mezőgazdasági termelésnek jelentős szerepe van a vidéki térségek megőrzésében, a fenntartható fejlődésében, valamint a regionális különbségek mérséklésében. Agrárágazatunk értékét elsősorban a kedvező éghajlat, a jó természeti adottságok és a termelési hagyományok együttese adja. Növénytermesztésünk hatékonysága nagymértékben függ a legfontosabb növényi kultúráink, így például az őszebúza-termesztés eredményességétől is. Hazánkban a búzatermesztés évszázadok óta tradicionális jelentőségű növénytermesztési ágazat, termesztésével a legtöbb gazdaságban foglalkoznak.

Elemző munkánk alapvető célja az volt, hogy az általunk összegyűjtött magyarországi és ausztriai termelési adatok alapján összehasonlítsuk a két ország búzatermesztésének eredményeit. Az összehasonlítás alapján elmondható, hogy Magyarországon jelenleg 5-ször nagyobb területen termesztenek őszi búzát, mint a szomszédos Ausztriában. A vizsgálat során megállapíthattuk, hogy a két országban a területegységre jutó termésátlagok közül az ausztriaiak átlagban 29,30 százalékkal magasabbak. A 2003-as év időjárásának kedvezőtlen hatása mind Magyarországon, mind Ausztriában jelentős termés kiesést okozott. A magyar gazdák esetében a termés kieséssel együtt jelentős jövedelemhiány is keletkezett a gazdálkodásukban. Ezzel ellentétben, az osztrák gazdáknak nem okozott különösebb gondot a termés kiesés, mivel az osztrák búzafelvásárlási árak magasabbak a magyar átlagáraknál. A magyar gazdák jövedelemhelyzetén és versenyképességén jelentősen segítene, ha a nyugat-európai gazdákkal egyenlő mértékű agrártámogatást kapnának.

Magyarországon az elkövetkező években a gabonafélék vetésterülete a tradíciók miatt nagy valószínűséggel nem fog csökkenni, de az egyes gabonafélék közötti vetésterület

megoszlás várhatóan módosulni fog a felvásárlási ártól és az értékesítési lehetőségektől függően. Az értékesítési nehézségek újbóli jelentkezésének elkerülése végett fontos lesz, az intervenciós felvásárlás megtartása mellett a hazai gabona-felhasználás szintjének emelése. Véleményünk szerint, ez utóbbi lehetőség elsősorban az állatállomány bővítésével, a gabonafélék élelmiszeripari és energia célú feldolgozásának/hasznosításának növelésével oldható meg.

**Kulcsszavak:** őszibúza-termesztés, magyarországi és ausztriai terméseredmények, versenyképesség.

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