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CHALLENGES OF THE EUROPEAN SEED INDUSTRY

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Abstract: The European Union (EU) has been in recent years the biggest market for agricultural and horticultural seeds. Although, in the recently enlarged EU, the branch has been developing very well, still there are challenges that Europe should be ready to face. The seed production procedures need to be simplified to face the increasing pressure of the US seed exporting companies and organizations. There must be some liberation in transgenic cultivars registration and seed production. One should be more aware of the fast coming globalization of the sector and consequences of intellectual property rights. At the same time some branch activities have been moved outside Europe. Other big challenges for the branch are privatization of the sector, increasing competition of consumption seeds and limiting chemicals for seed dressing.

The European Union (EU) has been in recent years the biggest market for agricultural and horticultural seeds. According to the available data from the International Seed Federation (ISF) and French organization called Group Interprofessional for Seeds and Plants (GNIS), in 2004, it took 22 % of the world's value of all seed trade transactions. At the same time, it has been also the area of big overproduction in both agriculture and horticulture. The EU has always had a large potential for plant breeding and high quality seed production. During the past 50 years, the world seed industry (including the one in Europe) and its regulations has changed drastically. Out of the EU countries, there are three countries, which have had in recent years the biggest influence of the European seed production and trade. These were in production measured by the area of seed plantations: France, Germany and Italy and in trade: Holland, France and Germany. Although, in the recently enlarged EU, the branch has been developing very well, still there are challenges that Europe should be ready to face.

The simplified production procedures

One of the biggest challenges of the whole seed branch is facing the fact that the EU's biggest competitor – the USA – has been persuading the European authorities to change the official seed production procedures. The so-called European scheme of producing sowing material is based on a constant control of all steps of breeding and seed production. At first, the newly developed cultivars must be officially registered and enlisted. Then their seeds in production must be officially controlled both in the field and in the laboratory. No such regulations exist on a liberal American market, where cultivars could be patented but neither a special cultivar list nor obligatory seed certifications in the field exist. These schemes are different to such extend, that American seeds cannot enter the EU markets (Table 1).

Table 1

Two schemes of producing seeds in the world

Attribute	EU	USA
Field certification	Yes	No
Cultivar list	Yes	No
Cultivar patent	No	Yes
Transgenic cultivars registration	No	Yes
Transgenic seeds production	No *	Yes

* till 2006/2007

The crucial issue here discussed already for sometime is the obligation to officially control all agricultural seed plantations in the EU. This is done by special state units in individual countries-members of the EU. This requirement, however, has not been obligatory in the USA. For this reason, the EU authorities will have to deicide what to do. The simplifying the seed production procedures (as the US want it) will make the seed production cheaper but at the same time seed business will be more open to low quality (and cheaper) sowing material coming on the market. The crucial here should be opinion of the leading seed producers in Europe, i.e. France, Germany, Denmark and Italy. In horticultural seeds, such simplifying of the field certification had already taken place a few years ago. It consists on making a field genetic purity control by a breeder (seed company) itself instead of the officially authorized unit. The system (adopted from the US) and described as "the standard category" has been proved to work out very well. Today 99 % of vegetable seeds in France and 70 % in Poland go through this production scheme. It has not only lowered the total seed production costs but also allowed the seed certification service employees to focus more on other aspects of seed control, e.g. on the market.

The transgenic cultivars registering

The second issue to be faced by the EU in seed sector is the transgenic cultivars. At present, their registration on the European Union's cultivars list called "Common Catalogue" is not possible. All leading European seed companies have been working on them, but cannot register them in the EU. Meantime in the world, the commercial production of transgenic plants increased from 0.6 million ha in 1996 to over 100 million hectares in 2006. They all refer to agricultural crops such as: soybean, maize, cotton, canola, tobacco and recently also sugar beet. Although the transgenic cultivar registration is not allowed in Europe, still its cultivation and use are legal. Therefore, it remains an open question whether Europe will eventually allow registering them.

Transgenic seeds production

Until the trade season 2005/2006 no transgenic cultivars commercial production was allowed in Europe. In 2006, Spain had about 60 thousand hectares of transgenic maize and 5 other countries: France, Germany, Portugal, Czech and Slovak had altogether 6.8 thousand hectares of transgenic cultivars. In 2006, the transgenic soybean was also produced in Romania. The commercial production of transgenic cultivars in Europe had been a fact. In 2007 France had been given a permission to produce sowing material of 5 maize transgenic cultivars on the area of 100 thousand hectares. At this point, it needs to be said that in Europe there has always been a strong movement against the GMO products. The opponents

underline that we are not aware today of all natural consequences of used genetically modified cultivars, because not all research on this area had already been conducted or revealed to public. On the other hand, the followers point out that using GMO will eventually lower the amount of chemicals used in agriculture and horticulture production. The scale of this phenomenon will depend on many factors including technical and extension services help and putting in power proper seed law regulations.

Globalization of the seed sector

It comes from the fact that development of telecommunication and transport makes easier to carry out seed trade. The total value of the world's seed transactions has been gradually increasing. In 2000, it was 3.5 billion USD, in 2006 already 5.5 billion USD and in the forthcoming years, this value is predicted to still increase. Another very important factor here is ongoing liberalization of the international rules concerning trading of sowing materials. Globalization in the seed world, including Europe, is also well seen through the policy of seed companies, which constantly take over smaller ones or merge with other companies to become bigger and bigger. In 1985, 5 biggest seed companies in the world had only 8 % of the world's seed market, in 1996 – 12.9 %, in 2006 – already 31.3 %. In France, the number of existing seed companies producing seeds decreased from over 350 in 1985 to less than 250 in 2005. These big companies have also bigger money for financing both breeding programmes and marketing activities. The EU should consider creating a special found to help small, family seed companies in the member countries to stay in business and fit into some seed market niches that still exist in Europe. A good example for such niche is an Italian company Anseme in Cesena specializing in seed production of vegetables typical for the Mediterranean zone. In addition, the position of the national seed companies should be protected by the individual states policy.

Intellectual property rights

The ongoing globalization of the seed sector has been eliminating small seed companies from creative breeding. It is so, because plant breeding itself has never been profitable, unless it was supported from selling seeds. Now, more and more newly developed plant cultivars, inbreeds and breeding lines belong to big, often multinational seed companies. As the UPOV exclusive breeders' rights become stricter, more newly developed cultivars will have a status of the legally protected ones. It will be then more difficult for small seed companies to get starting breeding materials for their breeding programmes.

Moving the activities outside Europe

This phenomenon has been going on for over 20 years now. It came from bigger competition on the market. Asking for better seeds made large seed companies to move over seed production to the areas with better weather conditions, e.g. USA, China, reversed seasons, e.g. Chile or cheaper labor, e.g. China or India.

Good examples of such practices are Polish seed companies. They moved their seed multiplication form Europe to other areas of the world. They are now getting better quality seeds for lower prices (Table 2).

Table 2

Some examples of seed multiplication of the Polish seed companies outside Europe

Company	Country	Species
Wielkopolska Hod. Bur. Cukr.	USA	sugar beet
PlantiCo Gołębiew*	USA, China	cauliflower, tomato, pepper
PlantiCo Zielonki	Chile	lettuce
Poznańska Hodowla Roślin	New Zeeland	white clover
Torseed SA	China	China aster
Polan	China	China aster
W. Legutko	India, China, Tanzania, Chile	lettuce, tomato, pepper, flowers

* in 2008 the company was taken over by PlantiCo Zielonki

Privatization of the agricultural sector

Its idea is not a new one. It came in the 80s and 90s from the fact that the EU advanced country members were no longer able to increase their state expenses on agriculture. The only way to solve this problem was to move this position, at least partly, to a private sector. This decision resulted in drastic cuts down of many agricultural areas including state subsidization of seed sector. This included both state-financed breeding and seed sector research. The state money was no longer directly involved in developing a new cultivar or promoting it. In research, it was limited to basic and theoretical research. A challenge here is to develop system in which having a new genetic source enables earning money on it. This, in turn, will result in new investments in gene banks and seed collections. The role of them will undoubtedly increase in future plant breeding. In many countries – new members of the EU, the privatization of the seed companies has not yet finished. In 2008, in Poland, there were over 130, for about 1000 existing on the market, still owned by the state.

Increasing competition of consumption seeds

In last two years due to weather disasters causing much lower cereals production in leading Italian, German and French companies and big export of processed alimentary products, e.g. milk in powder, the food surpluses in Europe have seriously decreased. This resulted in increasing prices for consumption seeds in Europe. Because of this phenomenon, part of traditional seed growers immediately switched from producing sowing into consumption seeds. The expected move of increasing process for sowing material although happened was not quite satisfied for seed growers, so part of them will not return to sowing seed business. This new challenge for the European seed sector caused changing its strategy. They started to look for new seed growers outside their own countries or even continent. The sowing material prices in comparison with the consumption seeds were always 1-2 times higher. This phenomenon has been well observed in all EU countries last 2 years.

Limiting chemicals for seed dressing

Most growers today buy the seeds of their cultivated variety in already processed and treated form. However, new seed regulations following a new EU strategy to sustainable use of pesticides seriously limited number of chemicals that can actually be used for dressing seeds. There were no amendments to benefit seed companies.

At present, seed companies must register seed coating products within member state. Moreover, export is only possible to another country where the product is registered.

A challenge here will be to impose a single EU-wide approval system similar to a one with new cultivars. Otherwise, small family-owned seed dressing companies will not stand the competition of large chemical firms.

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