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Marketing of triticale for grain production in the U.S.A.

Marketing pszenżyta przeznaczonego na ziarno w USA

W 2002 roku w USA zebrano na ziarno pszenżyto jedynie z 10000 ha. Pszenżyto jest tam wyłącznie zbożem pastewnym i musi konkurować z kukurydzą i soją. Nowe odmiany pszenżyta plonują do 15% wyżej niż pszenica, jednak nie zawsze wystarcza to na zrekompensowanie niższej ceny ziarna i braku subsydiów rządowych, które są dostępne dla uprawiających pszenicę. Polskie odmiany pszenżyta odegrały znaczącą rolę w rozwoju produkcji pszenżyta na ziarno w USA. Podatność odmian Bogo i Alzo na rdzę żółtą wstrzymała ich wdrażanie, ale ród MAH 3800 rokuje dobrze. Resource Seeds, Inc. stara się pobudzić do rozwoju rynek ziarna pszenżyta poprzez koordynację podaży i popytu oraz zapewnienie odpowiedniego zysku pośrednikom handlowym i hodowcom. Na Północnym Zachodzie USA stworzony został system kontroli dystrybucji ziarna siewnego i skupu plonów, we współpracy ze spółką handlową i grupą producentów, który umożliwił także uzyskanie funduszy na prace badawcze, hodowlane i na szkolenie farmerów. Cena ziarna pszenżyta jest ustalana w zależności od zawartości w nim białka i lizyny oraz od cen alternatywnych pasz na rynku. Bardzo obiecującym rynkiem dla pszenżyta jest rejon Południowego Wschodu przodującego w produkcji wieprzowiny i drobiu, gdzie powszechnie wykorzystuje się do skarmiania pszenicę i gdzie istnieje deficyt ziarna paszowego. Zastąpienie tam pszenicy pszenżytem nie tylko poprawiłoby bilans pasz, ale i bilans azotu i fosforu w agro-ekosystemie. Produkcja zwierzęca uwalnia do środowiska zbyt duże ilości tych pierwiastków, pochodzących głównie z importowanej kukurydzy i soi. Włączenie w obieg materii rośliny uprawianej na miejscu i tak dobrze wykorzystującej azot i fosfor jak pszenżyto pozwoliłoby zmniejszyć ilość uwalnianego azotu o ok. 25%. Resource Seed, Inc. nawiązało współpracę zarówno z kadrą uniwersytecką jak i przodującymi rolnikami w tym regionie, w celu rozbudzenia zainteresowania producentów i użytkowników ziarna pszenżyta. Jednocześnie nawiązano współpracę ze spółkami nasiennymi, które zapewniają rozprowadzanie ziarna siewnego i skup plonów, podobnie jak w rejonie Północno-Zachodnim. Takie działania na całej długości łańcucha marketingowego wymuszają ocenę produktu przez rynek, który powinien niebawem zweryfikować przydatność pszenżyta w warunkach USA.

Słowa kluczowe: bilans azotu, bilans fosforu, marketing, pszenżyto, USA, ziarno paszowe

Key words: nitrogen management, phosphorus management, marketing, triticale, U.S.A., feed-grain

Grain markets have proven to be difficult to develop for triticale in the U.S. As reported in the latest Census of Agriculture published by the U.S. Department of Agriculture (Census of Agriculture 2002), in 2002 less than 10,000 ha of triticale were harvested for grain in the entire country. Of that, the majority was produced in the states of Kansas, Nebraska, Oregon, Texas, and Washington.

In the last few years, however, the availability of improved varieties and the increased importance of environmental issues have renewed interest in grain triticale the U.S. Compared to previous varieties, new varieties of triticale have improved agronomic traits and higher test weight, and some produce 15% higher grain yield than wheat. A yield advantage of 15% or more is necessary for success of triticale grain production because almost all triticale grain now used in the U.S. is used for animal feed. The value of triticale for feed use, which is dictated by the prices of the maize and soybean meal that the triticale grain replaces, is usually much lower than the price received for wheat used for human food uses. The higher yield of triticale is essential to compensate the grower for the lower price received for triticale compared to wheat, and for the lack of government support payments that are often available for wheat and not triticale.

Varieties bred in Poland have played a prominent role in the development of triticale grain production in the U.S. The variety Presto provided an important breakthrough in seed yield potential and agronomic suitability in several parts of the country, and is still grown for grazing in the southcentral U.S. The high grain yield potential of the variety Bogo was a catalyst for beginning of one grain production program, which unfortunately has been discontinued because of problems with stripe rust and low feed-grain prices. The use of Alzo in that grain program also was discontinued because of stripe rust, but that variety is now being tested commercially in another production region where stripe rust is not a problem. The variety MAH 3800 shows promise for the future in the U.S.

The approach taken by Resource Seeds, Inc. and its cooperators to develop triticale grain markets in the U.S. has been guided by four key considerations. Access to the genetics. Breeders spend many years and much investment developing triticale varieties. To have access to those varieties, the marketing program must assure the breeders that they will share in the value created by those varieties. In other words, the program had to deter unauthorized use of the varieties while generating royalties for the breeders who developed them. Coordination of supply and demand. Historically an obstacle to the production and use of triticale grain in the U.S. has been the lack of coordination between supply and demand. Potential producers have been hesitant to grow triticale grain until they are confident that there are buyers for the grain who would pay a satisfactory price. Potential users of the grain have been reluctant to commit to purchasing triticale grain or to specify a price until they are confident that supply would be adequate to justify changing to triticale, and until they have determined the value of the triticale grain for meeting their needs.

To succeed where previous efforts have failed the marketing program must include a well-coordinated, efficient system for conveying price signals and grain between growers and grain users.

Adequate income for market intermediaries. To solve the "what comes first" problem involving producers and users, success depends on someone making a commitment to assure growers of a worthwhile market and assure grain users of a convenient, consistent supply of enough grain to justify changing to triticale from other grains. Unless the marketing program provides fair compensation for the effort, expense, and risk of establishing value and making a market, no one will fulfill that essential role. Funding for research and education to maximize crop value. To fulfill the potential of the triticale varieties and marketing program, research and education efforts are needed on how best to grow and use the grain. During the first years of a program, the need for research is at its highest, while research funding from traditional sources is at its lowest, so additional assessments to support research are needed.

In light of these considerations, to develop a triticale grain market in one part of the Northwest U.S., Resource Seeds has worked with a diversified agricultural marketing company to contract and coordinate the production and use of the grain. Prior to planting time, the company assesses the level of demand for the grain and establishes production targets. Based on those targets, seed of the triticale varieties is sold to growers who agree to market the triticale grain they produce back through the marketing company, creating a "closed loop". This closed loop assures reliable markets for producers and reliable supply for grain users, and assures that the breeders of the two varieties are compensated for use of the varieties because seed is available only to those who participate in the marketing program. In addition to paying the grower for the grain, the marketing company is responsible for the cost of operating the marketing program and for payments due to the grain commission and an additional assessment for research, and market development.

Elsewhere in the Northwest U.S., Resource Seeds has worked with a group of growers and grower-owned cooperatives to implement a triticale grain program. That program began by quantifying the value of the triticale grain for swine and poultry producers in the area, then developing relationships with those buyers to obtain their commitment to buy the grain at a price determined by the research. As in the other Northwest marketing program, the coordinator of the program gauges how much grain can be sold to the swine and poultry companies that will use the product, then seeks to match that by selling seed to growers who agree to sell the grain back to the marketing program. The grain produced by the growers goes into storage at the grower-owned cooperatives, is analyzed for crude protein and lysine, then is supplied to the swine and poultry producer as requested, at a price determined by the lysine content and the prices of alternative feeds at the time of the sale. For some buyers, price is typically determined by a linear programming model and the matrix of prices of alternative feeds available at that time to the buyer. For other buyers, price is determined with a formula based simply on the price of maize and soybean meal, which are the dominant feeds in the area.

Triticale grain also has potential as an animal feed in the Southeast U. S., as reflected by the fact that in many years the price at harvest of the soft red wheat grown there is typically very close to the price of maize, and a large proportion of the wheat crop grown in the area is used for feed. Triticale varieties that have higher grain yield than wheat would have a higher market value per acre than the wheat sold for the same feed market, although

this yield advantage can be overshadowed by government subsidies for wheat, and by growers' reluctance to plant triticale and forego any chance at occasional high wheat prices for food use.

The Southeast is a leading production region for swine and poultry, and as a region does not produce nearly enough feed to meet the needs of that livestock industry.

The livestock producers, and in particular the swine producers, have had excellent results feeding triticale grain. The presence of a large, receptive livestock industry in a feed-deficit area offers a significant opportunity for triticale grain.

One of the most important factors currently stimulating interest in triticale in the Southeast is the environmental problem associated with the large livestock industry in the region. Each year, millions of tons of maize and soybean meal are shipped into the Southeast for feed. A significant portion of the nitrogen and phosphorous in that feed ends up in the effluent from animal feeding operations, thereby creating a major environmental problem for the region. Triticale already is being used as a forage crop to help manage that effluent, and to minimize the movement of nitrogen and phosphorous into streams. Use of locally grown triticale grain as feed would reduce the amount of feed that needs to be brought in from other regions, and in effect would recycle livestock effluent back into feed, thereby helping to improve the overall "nutrient budget" of the region. Use of triticale instead of maize can substantially reduce the amount of phosphorous effluent from the feeding operations because of the significantly higher bio-availability of the phosphorous in triticale grain compared to maize. The higher bio-availability results in more efficient use and less excretion of the phosphorous by the animal. Use of triticale grain supplemented with lysine and threonine amino acids can replace the soybean meal as well as the maize in the ration, producing equally good animal weight gains and meat quality as the maize-soy ration while reducing the amount of nitrogen excreted from the animal by over 25%.

Within this generally favorable opportunity for triticale grain production in the Southeast U. S., Resource Seeds has worked with university researchers to document the yield potential and feed value of triticale varieties, and the benefits of triticale to improve the management of nitrogen and phosphorous. On this foundation of university work, Resource Seeds initiated pilot production with progressive farmers, and supplied grain to livestock producers for evaluation. As these steps were being taken to generate interest among growers and uses of grain, Resource Seeds approached seed and grain companies about production and distribution of seed to create "closed loop" programs like those being used in the Northwest.

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In its efforts to develop triticale grain markets, Resource Seeds has begun at the two ends of the marketing chain: providing superior triticale genetics at one end, and getting commitments from companies to purchase the grain at the other end. The efforts at the two ends of the marketing chain determine the value of the product and the context within which all the other necessary links in the marketing chain must be forged. The outcome of the ongoing marketing efforts will reveal whether the total value of the triticale grain now being marketed is large enough to sustain the triticale breeding programs, seed producers, grain producers, marketing companies, and other participants who fulfill the essential links in the triticale grain marketing programs in the U.S.