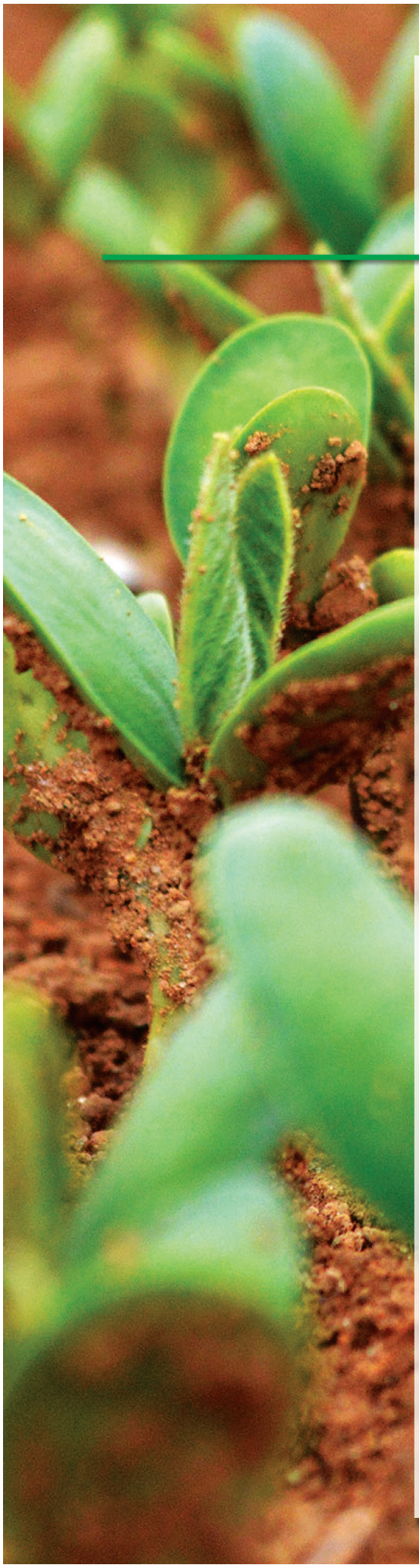

Soybeans and Other Oilseeds

EXECUTIVE SUMMARY

The oilseed sector of the Kansas agricultural industry includes the production of soybeans, sunflower and canola along with the first purchaser users of these oilseeds, like crushers, refiners and biodiesel manufacturers. The oil produced from these seeds goes into a variety of products from vegetable oil to other food products and even biodiesel. The by-products from the production of this oil are also an important part of the oilseed sector, as soybean meal is a major ingredient in the livestock feeding business. Oilseeds are a successful crop in dryland regions of Kansas, and advancements continue to make them even more efficient through genetics and crop management systems. Demand is strong for oilseed products, both domestically and internationally, and production would grow even more if Kansas had additional processing options in the state.

Although great potential exists in the oilseed sector, a number of challenges still present barriers to growth. The lack of additional processing plants means growers must ship their product out of state, which decreases profitability. This adds to transportation concerns if growers need to transport product long distances. Declining water in some regions of the state is a threat to growers, and advancements which aim to make soybean production more water efficient have fallen prey to negative consumer perceptions of biotechnology.

Realizing the growth that is possible within this sector will require input and discussion among key partners in the oilseed industry. Efforts to recruit new businesses, especially processing plants, would benefit current and future growers. Collaboration with industry organizations and agricultural researchers could contribute to technological advancements and public outreach, which will need to work together. Significant opportunities exist to expand the success of current farmers and businesses as well as to attract new players to the industry. The strategic growth plan for this sector will be critical to its future.

Kansas AGGROWTH
GROW SMARTER. GROW STRONGER. GROW KANSAS.

STATUS

The oilseed sector of the Kansas economy is composed of primarily soybean, sunflower and canola production as well as the first purchaser uses of the oilseeds such as crushers, refiners and biodiesel manufacturers and the feed stream users. Kansas ranks 10th in soybean production with 192.5 million bushels, 5th in sunflower production with over 738,000 hundredweights in 2016. The state has six soybean crush facilities. The oil goes into familiar products such as vegetable oil for all manner of food products and oil for biodiesel.

According to estimates prepared by the Kansas Department of Agriculture and based on the Implan economic data model, the soybean and other oilseed industry in Kansas has a direct output of over $1.27 billion and creates 1,169 jobs in the state. Through indirect and induced impacts, the industry supports a total of 6,806 jobs and creates a total economic contribution of approximately $2.16 billion.

In this sector of Kansas agriculture the by-products can be just as important as the oil. Soybean meal is a major ingredient in the livestock feeding business, and Kansas has more than 2.2 million cattle on feed, 1.8 million hogs on feed and a growing poultry industry. Canola oil for cooking is by far the largest consumer of Kansas produced canola. Sunflower and canola feed streams are also marketed to specialty markets such as bird seed and food.

Two key challenges for oilseed production in Kansas have been suitability of the growing conditions and adoption by Kansas farmers. Soybeans are widely grown in the United States and are a key part of the crop rotation in the eastern part of Kansas. Soybeans are also highly sensitive to drought and high temperature/low humidity growing conditions that make them less suitable for the central and western parts of Kansas. Sunflowers and canola are grown extensively in the northern plains of the U.S. The industry in that region benefits from well-established infrastructure, such as crop consulting, input suppliers, extension services, storage facilities and processors. The infrastructure to support sunflowers and canola is more limited in Kansas, with only one sunflower processor in the state and no canola processors. Many farmers are unfamiliar with the production and harvesting methods for sunflower and canola, which do not match exactly with harvest practices used in wheat, corn, sorghum and soybeans.

The pro-business climate makes Kansas a prime location for oilseed processing to expand in Kansas. The climate would be improved by an increase in the resources available to farmers to help support the production of unfamiliar oilseeds such as sunflowers and canola. The genetic technology to make more acres in Kansas suitable for soybean production would also benefit this sector. Increased biodiesel production and consumption with efforts similar to those employed for ethanol production would increase demand for this product as well.

OPPORTUNITIES

In order to develop a strategic growth plan for the soybeans and other oilseeds sector, it is important to understand the areas where Kansas has a comparative advantage and the best opportunities for growth or expansion.

Factor	Implications for Growth and Development Opportunities
Big Data Use	As more and more data becomes available related to cropping systems, there are more opportunities to use the data to improve profit margins for soybean and other oilseed farmers, thereby increasing its economic impact and the number of farmers interested in growing these crops. Kansas is home to leaders in the agricultural technology industry, further developing technology solutions to improve the efficiency of oilseed production.

OPPORTUNITIES

Factor	Implications for Growth and Development Opportunities
Domestic Consumption	A strong consumer base for canola oil already exists in the U.S. Nearly 80% of all canola utilized in the U.S. is imported from Canada. Great demand exists for U.S.-grown product in this sector.
Double Crop	Soybean and sunflower double crop acres could increase if producers plant shorter season wheat varieties and harvest the crop at a higher moisture content. Many wheat millers prefer to control the drying process themselves.
Export Markets	Kansas soybeans have a relatively higher protein content than those produced in the corn belt. Building relationships with trade partners such as Mexico will increase the demand for Kansas-grown soybeans.
Genetic Advancements	Advancements in soybean and canola genetics in recent years make oilseeds a viable crop on more acres of dryland in Kansas than ever before.
Human Capital	Kansas is home to strong leadership in the oilseed industry, creating additional investment opportunities. The Kansas State University Department of Agronomy is a recognized leader in oilseed production and breeding. K-State's grain science department is recognized as the top program in the nation. Researchers across the K-State College of Agriculture are improving oilseed processing and finding more and efficient uses for oilseeds and products.
Land Availability	Kansas has the second most farm land of any state, roughly 90 percent devoted to agriculture.
Livestock Feeding	Kansas is a top 3 state in cattle production and top 10 in hogs. Kansas is also among the fastest growing dairy states. Livestock feed is the largest consumer of Kansas soybeans. Any advancement in the livestock industry will have a positive impact on the soybean industry. Canola by-products are a desirable feed stream for the dairy industry.

OPPORTUNITIES

Factor	Implications for Growth and Development Opportunities
Processing	Additional processing such as crush plants, soy milk and other processing/packaging facilities will increase demand and improve local prices. A facility in Goodland crushes virtually all canola produced in Kansas.
Supporting Infrastructure	Kansas is home to some of the world's leading crop genetic companies and research facilities, which could lead to the production of seed suitable to the Kansas climate. Existing intermodal, transload, rail and shipping container facilities provide a solid export infrastructure for oilseeds and value-added products with additional improvements planned.

SUCCESS STORIES

Key successes in the industry:

- The Kansas legislature, along with Governor Sam Brownback, approved a special permit for non-divisible loads of up to 90,000 pounds gross vehicle weights on non-interstate roads if the vehicle has six or more axles.
- In 2012 a new oilseed processing operation opened in eastern Kansas. Currently, 104.9 and 419.8 million pounds of oil and meal are processed, respectively, directly employing 268. The $152 million capital investment contributes an estimated $231 million to the Kansas economy annually.

CHALLENGES

While Kansas is poised for major expansion in the soybeans and other oilseeds sector, the following factors represent challenges serving as barriers to achieving the objective of the strategic growth plan.

Challenge	Details of Challenge
Consumer Perception	Negative consumer perception of biotechnology threatens future advancements that have made soybean production possible in many areas of the state.
Critical Infrastructure	A lack of adequate housing in rural areas compounds the issue of a shortage of agricultural workers. Kansas has adequate grain and liquid rail infrastructure. However, a lack of rail access in the western portion of the state will require processors of specialty products to ship products across the state to be loaded onto the rail or use alternative transportation. A lack of processing plants in western Kansas adversely impacts soybean and sunflower local prices, increasing the relative profitability of corn. As oilseed producers improve yields and efficiency, transportation becomes a larger issue. Aging infrastructure of highways, bridges, rail and barge also pose challenges. Investment in infrastructure and increased truck weights on additional axles can make the transportation system more reliable and cost-effective.

CHALLENGES

Challenge	Details of Challenge
International Trade	Access to international markets for oilseed products is key to growing the industry. Resistance to free trade agreements at the federal level can hinder this access
Policy	Though not unique to Kansas, there exist significant challenges due to federal laws and regulations, including: reduced Renewable Fuel Standards mandates, Waters of the U.S., the Endangered Species Act, burdensome Occupational Safety and Health Administration regulations and more.
Water	Although not as water intensive as corn, water use in the production of soybean, sunflower and canola is greater than in crops such as sorghum, wheat and cotton, according to historical data.
Workforce Development	Growth in oilseed processing will require a skilled and a non-skilled workforce, which continues to be a significant challenge throughout the entire agricultural industry.

NEXT STEPS IN STRATEGIC DEVELOPMENT

Leaders from throughout the Kansas soybean and oilseed industry will continue to collaborate in the development and implementation of a long-term strategic growth strategy with input and discussion among key partners. Industry-identified desired growth outcomes, initially developed in 2016, will be implemented by industry and key partners and updated annually at the Kansas Governor's Summit on Agricultural Growth.

SOYBEAN AND OILSEED INDUSTRY OUTCOMES

Growth Objective:
Foster an environment that develops Kansas as a leader in production of high quality oilseeds, and support expanded research to advance the industry.

The following outcomes will be the result of industry collaboration and effort to grow the Kansas soybean and oilseed industry:

Phase 1 (Begin within two years)

- Increased demand for Kansas soy products across the nation and the world due to the high quality of Kansas-produced soy oil and meal, which contain higher protein content than soy products from Corn Belt states.
- Growth in the pork, poultry, beef and dairy sectors in Kansas through participation in each sector's growth strategy. Kansas livestock industries are the largest market outlet for oilseeds.
- Reduced basis by promoting the expansion of in-state oilseed processing.
- Faster regulatory approvals for inputs imperative to oilseed production
- Increased export opportunities for soybean and oilseed products.
- Increased double cropping of oilseeds after wheat. Expansion of double crop insurance by the U.S. Department of Agriculture Risk Management Agency would benefit farmers who choose this option, as well as increased promotion by K-State Research and Extension.
- Increased truck weights on state highways, specifically going to 90,000 pounds on six axles, to maximize efficient movement of oilseeds and reduce environmental impact.
- Clear, factual information about genetic engineering, or genetically modified organisms (GMOs) easily available to consumers, particularly relating to the efficiency of resources offered by GMOs.
- Canola insurance available statewide. Current USDA regulations limit canola insurance to specific counties.

Phase 2 (Begin within 2-4 years)

- Increased research funding to Kansas State University for sunflowers and canola. Benefits of oilseeds are not well known to farmers or to consumers.
- Increased processing facilities to add value to all types of oilseeds within the state.