

## CSU Agronomy Agent's Corner #6

### Development of Alternative Crops

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Alternative crops bring both benefits and challenges that are not present in the major crops of our region. Growing an uncommon crop means pest pressure will likely be lower. It also means finding a market can be unreliable. Several alternative crops have potential in our region. They also come with a higher risk of crop failure. Being a cutting-edge producer can bring pride and joy. But, producing crops that are not common in the region means having to search harder for answers to challenges.

Canola is a major crop in the Canadian great plains, Montana, North Dakota, Minnesota and western Europe. Breeding efforts for canola have expanded its growing region into parts of the southern great plains. Colorado has not been approved for crop insurance for the crop in 2021. The challenge to developing canola varieties for this region is winter kill. Canola that has broken winter dormancy becomes sensitive to late frosts. Eastern Colorado is more likely to receive a frost after winter dormancy has been broken than Montana and the Dakotas due to a tendency for frosts to occur after several warm days with no snow cover. The resistance to winter kill is improving over time with the Kansas State University breeding program focusing on this issue.

Cotton is another potential alternative crop. The highest cotton quality globally comes from Egypt. Cairo sits at the same latitude as Houston, has rich soil, and an adequate water supply from the Nile River. Growing cotton eleven degrees north of there in a semi-arid region results in shorter lower value fibers. The nearest operational cotton gin is in Hutchinson, KS. To produce cotton in our region would require varieties that can consistently mature early with a drier summer. Growers would either need to plant on a large enough scale to justify a local gin or commit to sending bales by rail to central Kansas.

Sunflower is a member of the Asteraceae family that is native to the region. It is well adapted to semi-arid conditions and can grow in a shorter growing season than here. North Dakota is the largest producer of sunflowers. CSU Extension has a sunflower expert on staff in Ron Meyer. The crop provides a high protein meal and a cooking oil. Marketing should not be a challenge as the pork industry is interested in using the meal. The drawback of sunflower in a semi-arid region is also what makes it well adapted. Sunflowers are water scavengers. This trait leaves little water behind for the next crop. The best time to grow sunflower is likely before chemical fallow in your rotation.

Sesame produces a high value cooking oil. The crop has an established U.S. growing area across the southern border from California to Florida and as far north as central Kansas. Sesame is well adapted to high afternoon summer temperatures. The biggest challenge with producing sesame is its inconsistent maturity. Pods near the bottom of the plant will be mature and shattering long before the plant stops producing seed. Flowers can still be open on the top of the plant when shattering on the bottom begins. The sesame seed company in the U.S. has long focused their breeding efforts on reducing the tendency to shatter with limited success. Harvest timing remains an essential decision to success in sesame production.