

Energize Your Beef Operation



Through extensive R&D, we combine proven genetics and strong agronomic characteristics in the field as well as substantial changes in starch and sugar availability in the ration. **Enogen® hybrids feature standout digestibility and high tonnage potential to help maximize your herd's true potential.**

The alpha-amylase enzyme in Enogen corn quickly converts starch to usable sugars, delivering more available energy to cattle while being easily digested. Increased digestibility of Enogen corn can result in increased feed efficiency, which can help reduce greenhouse gas emissions in livestock production systems.¹

PAVING THE PATH TO SUSTAINABLE PRODUCTION

Life Cycle Assessments (LCAs) measure differences in environmental impact when Enogen is fed versus other corn through the entire end-to-end production process.

Studies used in the LCA measured feed efficiency by analyzing starch digestibility, total tract digestion and fecal output. Results show that feed efficiency improvements are evident for Enogen fed as whole-shelled, dry-rolled or steam-flaked grain, or as silage. In these studies^{2,3}, Enogen achieved the following with no difference in dry matter intake.

↑
4%

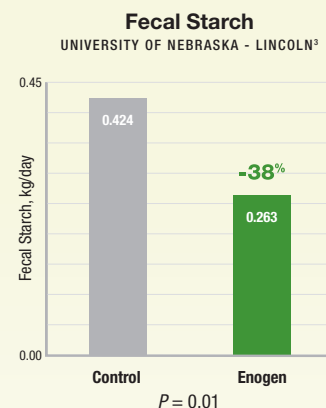
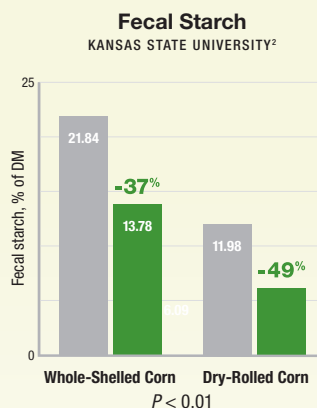
Increased net energy
for maintenance (NEm)
by 4%

↑
6%

Increased net energy
for growth (NEg)
by 6%

↓
37-49%

Reduced fecal
starch output
by 37-49%



University research has shown that feeding Enogen as silage or grain can improve feed efficiency by about 5%.⁶ LCA shows that increasing feed efficiency by about 5% in backgrounding and the feed yard per 1,000 head could result in significant environmental savings.⁴



CLIMATE CHANGE

> 392k kg CO₂e
GHG Equivalent of
32 Passenger
Cars for 1 Year⁴



LAND USE

69 Acres
Land Use Equivalent of
52 Football Fields
Over 1 Year⁴



WATER USE

> 6m gallons
Enough Water to Fill
9 Olympic
Swimming Pools⁴



ENERGY USE

> 231k kWh
Energy to Power
21 Average Homes
Over 1 Year⁴

Increased Efficiency for Fields and Feedlots

Enogen Benefits in Silage Production or Storage:

- **High-yielding, elite genetics** that require no additional management unlike some other specialty silage hybrids⁵
- **Field trials show no yield difference** in yield potential between Enogen[®] corn and conventional silage⁶
- **Silage quality and consistency**, delivering greater levels of starch digestibility and more immediately available nutrients from day one after harvest and for more than eight months in the silo or pit⁷

Enogen Silage Benefits in Livestock Production:

- **No adverse effects on ruminal digestion or pH**, and no increase in incidence of acidosis or bloat⁶
- **Simple incorporation into rations** — replace your current silage with Enogen silage to help increase feed efficiency
- **Helps to optimize DMI** with production, lowering feed costs and increasing the efficiency of your operation



Improve feed efficiency by about 5% with Enogen hybrids when fed as either grain or silage.⁶



Visit EnogenFeed.com to find your local seller.



¹ Min et al. Animals 2022, 12, 948. <https://doi.org/10.3390/ani12080948>; Waite, R. and J. Zions. WRI 2022, 7 Opportunities to Reduce Emissions from Beef Production. <https://www.wri.org/insights/opportunities-reduce-emissions-beef-production#>

² Johnson et al. 2018. Kansas Agricultural Experiment Station Research Reports, vol 4: Issue 1, <https://doi.org/10.4148/2378-5977.7543>

³ Jolly-Breithaupt et al. 2016. Nebraska Beef Cattle Report 48-2016:139-142. <https://beef.unl.edu/documents/2016-beef-report/48-2016-Digestion-of-Finishing-Diets-Containing-Syngenta-Enhanced-Feed-Corn.pdf>

⁴ Based on LCA conducted by the University of Arkansas Resiliency Center for 1000 head, backgrounding through feed yard (Matlock et al., Analysis of Life Cycle Environmental Impacts of Using Enogen Corn in Beef Cattle Rations. Animals Volume 11: Issue 10, 2021, 2916, <https://doi.org/10.3390/ani11102916>) using these experimental data and resources: Transl. Anim. Sci. Volume 3: Issue 1, January 2019, 504 512, <https://doi.org/10.1093/tas/txy121> (Exp 2); Kansas Agricultural Experiment Station Research Reports: Volume 4: Issue 1, 2018 <https://doi.org/10.4148/2378-5977.7543> (Exp 1); <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator>; and <https://www.eia.gov/energyexplained/units-and-calculators/energy-conversion-calculators.php> (Exp 1); <https://epa.gov/energy/greenhouse-gas-equivalencies-calculator>

⁵ Enogen is subject to specific yet simple stewardship requirements.

⁶ University of Nebraska-Lincoln Research Studies, 2013-2017; Kansas State University Research Study, 2017; Pennsylvania State University, 2019.

⁷ Syngenta Contract Research 2019; Estimated from linear regressions for each hybrid type, R² > 84%, Enogen n=104, Other n=64.