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Corn Hybrid Grain End-Use Ratings

Syngenta is committed to sharing agronomic knowledge with our customers to help them grow more corn. The Corn Hybrid Grain End-Use Ratings provide information that can help our customers produce corn for livestock, the ethanol industry or other grain end uses where grain quality is just as important as yield. These Corn Hybrid Grain End-Use Ratings are generated by collecting grain samples from internal company trials which are sent to an independent laboratory for protein, oil and starch analysis. The data from these analyses are then categorized for the end-use based on the level of each characteristic with four ratings: **Best** (highest level); **Good** (above-average level); **Fair** (average to below-average level); **Poor** (low level).



Uses for High Quality Corn Grain

- Greater feed value per unit of grain
- Can improve feed efficiency, reducing cost per pound of gain
- Reduces the need for feed supplements, and the storage and handling costs associated with those supplements
- Potential for premium on grain

Understanding Grain Quality Traits

Protein: Represents the ability of a feed to supply the animal with amino acids and nitrogen, the basic building blocks needed for growth and maintenance of the body.

Oil and Starch: Both traits are an indication of the ability of a feed to meet the animal's energy, fat deposition and heat production needs. Starch is the largest single component in corn grain and the primary source of most of the energy in corn. Oil is more energy dense than starch, thus a unit change in oil content affects the energy supplied by the feed more than a similar unit change in starch.

Ethanol

- Specific hybrids can yield 2-5% more ethanol than bulk commodity corn.¹
- Ideal hybrids for dry-grind ethanol production have a larger portion of high total fermentables (HTF), which is starch plus small amounts of free glucose, fructose, maltose and sucrose within kernels.
- Grain starch content alone is not a good indicator of ethanol yield.

Factors Influencing Grain End-use Characteristic Content

- Environment – Corn grown in the northern U.S. tends to be higher in protein and corn grown in the central and southern U.S. tends to be higher in starch.
- Genetics – Some hybrids will consistently produce higher levels of specific grain end-use characteristics, regardless of growing conditions and crop management.
- Soils – High fertility soils tend to produce higher levels of protein.
- Management – Proper nitrogen fertility correlates to increased protein levels.



Note: Always select hybrids first based on local adaptability and then consider grain end-use characteristics.

References:

¹ Bothast, R.J. and Schlicher, M.A. 2005. Biotechnological processes for conversion of corn into ethanol. Appl. Microbiol. Biotechnol. 67: 19-25.



NK® Corn Hybrid Grain End-Use Ratings

NK Hybrid Series	Relative Maturity (RM)	Protein	Oil	Starch	Ethanol	NK Hybrid Series	Relative Maturity (RM)	Protein	Oil	Starch	Ethanol
NK7837	78	Fair	Good	Best	Good	NK0760	107	Fair	Best	Good	Best
NK8005	80	Good	Fair	Good	Best	NK0821	108	Fair	Best	Good	Good
NK8204	82	Poor	Fair	Best	Best	NK0877	108	Good	Poor	Best	Best
NK8519	85	Good	Fair	Good	Good	NK0886	108	Fair	Best	Best	Good
NK8618	86	Fair	Fair	Best	Best	NK0962	109	Good	Best	Good	Good
NK8760	87	Good	Good	Good	Good	NK1026	110	Good	Good	Good	Best
NK8881	88	Fair	Poor	Fair	Fair	NK1082	110	Fair	Good	Good	Best
NK8920	89	Good	Fair	Best	Good	NK1188	111	Good	Poor	Good	Best
NK9023	90	Best	Poor	Fair	Fair	NK1205	112	Good	Best	Good	Good
NK9175	91	Poor	Fair	Good	Best	NK1239	112	Fair	Fair	Good	Best
NK9227	92	Good	Fair	Best	Good	NK1321	113	Good	Fair	Good	Good
NK9231	92	Fair	Fair	Good	Fair	NK1349	113	Fair	Good	Fair	Fair
NK9347	93	Fair	Fair	Good	Good	NK1354	113	Fair	Poor	Best	Good
NK9468	94	Best	Best	Fair	Good	NK1364	113	Good	Fair	Fair	Good
NK9535	95	Fair	Fair	Best	Best	NK1452	114	Fair	Good	Good	Best
NK9653	96	Best	Poor	Good	Good	NK1460	114	Fair	Fair	Best	Best
NK9738	97	Best	Fair	Good	Good	NK1523	115	Good	Poor	Good	Best
NK9922	99	Good	Fair	Good	Best	NK1573	115	Fair	Good	Best	Good
NK9930	99	Best	Best	Fair	Good	NK1661	116	Fair	Poor	Best	Good
NK9991	99	Good	Fair	Good	Best	NK1677	116	Good	Best	Fair	Fair
NK0007	100	Fair	Good	Good	Good	NK1694	116	Fair	Good	Good	Best
NK0243	102	Good	Best	Fair	Good	NK1701	117	Fair	Poor	Good	Fair
NK0314	103	Good	Fair	Fair	Best	NK1748	117	Good	Best	Fair	Fair
NK0440	104	Fair	Fair	Best	Best	NK1755	117	Good	Fair	Fair	Good
NK0472	104	Good	Best	Good	Good	NK1808	118	Best	Fair	Good	Good
NK0624	106	Fair	Fair	Best	Good	NK1822	118	Good	Fair	Best	Good
NK0696	106	Poor	Poor	Best	Fair	NK1860	118	Best	Fair	Best	Fair
NK0748	107	Fair	Best	Fair	Fair						

Corn Hybrid Grain End-use Ratings Key: Best Good Fair Poor

Using this chart:

Protein – A source of nitrogen and amino acids needed for animal growth

Oil – A secondary source of energy in corn grain and more energy dense than starch

Starch –The largest single component in corn grain and the primary source of energy

For more information about NK Corn hybrids, contact your retailer or visit www.nkseeds.com



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