11 Research Studies Revealed	
Health and Carcass Studies (poly-unsaturated fatty acids inclusion)	Cost/Gain/Efficiency Studies (Extruded Soy inclusion)
University of Georgia 93 hd Corn Oil Finishing Study	LDL Angus South Dakota 386 hd / 1300 lb.to Finish Study
(Equal Nutrient+Added Fat Diet)	(Higher Protein+Fat added to WDGS Diet)
Increased Marbling	.8% Less Death Loss and Less Treatments
30% More Grading Choice	11% Improved Daily Gain (.46/day)
16% More Carcasses Qualified for Certified Angus Beef	6% Improved Feed Efficiency (.44 less DM/day)
Iowa State High Corn Oil Finishing Study	5% Less Cost of Gain (\$.05/gain)
(Equal Nutrient+Same Alternative Fat Diet)	Improved Net Profit (\$19.95/hd)
14% More Grading Choice	University of Georgia 60 day (400-650 lb.) Ration Calculation Study
Kansas State Omega 3 Flax Oil Finishing Study	(Equal Protein+Added Fat Diet)
(Equal Nutrient+ Added Fat Diet)	Computer Calculations Predicted Negatives on Cost / Gain
10% More Grading Choice	But, Actual Performance Results were Extremely Positive
Pennsylvania State Food Quality Study w/Extruded Soy	10% Improved Daily Gain (.30/day)
(All Equal Nutrient Diet)	29% Improved Feed Efficiency (1.24 less DM/day)
17% Greater CLA and Juicer Steaks	12% Less Cost of Gain (\$.07/gain)
8% Improved Quality Grading Choice	Huffton South Dakota 395 hd / 1000 lb.to Finish Study
JB Minnesota Sick Buffalo Calf Results w/ extruded-soy	(Equal Protein+Added Fat Diet)
Expected High Death	30% Improved Daily Gain (1.0/day)
Improved Health and Mortality	24% Improved Feed Efficiency (2.07 less DM/day)
WH South Dakota Sick Calf Results w/ extruded-soy	12.5% Less Cost of Gain (\$.04/gain)
Expected High Death	<u>Cooper Minnesota 46 hd / 650 lb. Diet Change Study</u>
Improved Health and Mortality	(Equal Protein+Added Fat Diet)
Swanson South Dakota Sick Calf Results w/ extruded-soy	31% Improved Daily Gain (1.0/day)
Expected High Death	17% Improved Feed Efficiency (2.07 less DM/day)
Improved Health and Mortality	13% Less Cost of Gain (\$.04/gain)

## Facts and Conclusions

Diets Formulated using Soy usually out performs diets Formulated using Distillers Grains as per Gains, Feed efficiency, and carcass quality Diets Formulated using DDGs with Oil usually out perform DDGs without in every respective consideration (see ND State & other Studies) Distiller Grains diets are usually cheap and can competitively replace solvent soy diets even though Gains and carcass traits are less Wet Distillers usually performs better than Dried Distillers

Vegetable Oil nutrition from intact meals and seeds does not hinder rumen function whereas, liquid forms of fats can harm digestion of fiber All seed or meal sources of Vegetable Oil seems to improve Carcass Traits, Health, and Gains

**Extruded Soy Diets Improve Health, Feed Effiencies, Gains, and Carcass Traits, mostly at Lower Cost of Gain** (However, initial ration costs may be higher due to added nutrition) **Improved Health and Improved Carcasses may mean additional Profits at Market time as well.**