

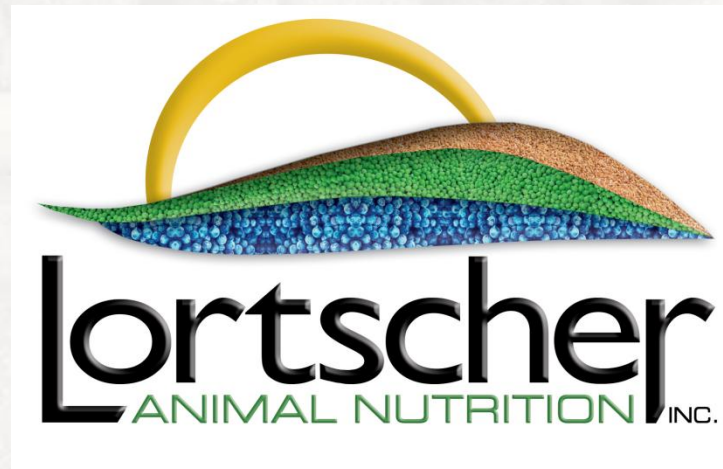
Ingredient Sustainability

Best Practices from a Buyer's Perspective

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Sustainability of Pet Food Ingredients

- Sustainability defined as “meeting the needs of the present, without compromising the ability of future generations to meet their needs”¹
- Why is sustainability important?
- What can I do in my little corner of the world?
- Is it really worth the time and effort?

1: Swanson KS, Carter RA, Yount TP, Aretz J, Buff PR. Nutritional Sustainability of Pet Foods. *Adv Nutr.* 2013 Mar 1;4(2):141-50. doi: 10.3945/an.112.003335.



Why is Sustainability Important??



What Can I do in my Corner of the World?

- Know your Supply Chain
 - Origin/Supply Points
 - Transportation Infrastructure
 - Knowledge of Ingredients Purchased



What Can I do in my Corner of the World?

- Origin/Supply Points
 - Locate origin shipping points for ingredients
 - Understand shipping lanes to your plant and maximize freight potential
 - Source Local if possible
 - The highest quality, most reliable source may be out your back door
 - Be willing to change/seek new supply points
 - Anti-change mentality can destroy avenues for sustainability.



What Can I do in my Corner of the World?

- Transportation Infrastructure
 - Use larger freight movers such as rail where possible
 - Join forces with supply partners who may be buying full truck-load quantities
 - Third-party Logistic Companies (3PL's)



What Can I do in my Corner of the World?

- Transportation Infrastructure
 - Third-party Logistic Companies (3PL's) continued:
 - Control of your freight at all times
 - Utilize Transportation Management Software (TMS)
 - Certify specific freight vendors
 - Large companies that offer less-than-truckload services (LTL)
 - Commitment to Sustainability
 - proven track records for safety
 - on time shipments
 - low number of damage claims



What Can I do in my Corner of the World?

- Transportation Infrastructure
 - Third-party Logistic Companies (3PL's) continued:
 - Benefits:
 - Economical both to your company and the client
 - TMS systems source freight vendors operating specific lanes of transportation to route freight accordingly
 - Will not route freight on a carrier that typically does not frequent a certain area
 - Responsive



What Can I do in my Corner of the World?

- Knowledge of Ingredients
 - Co-Product Streams from production of human foods and novel ingredient production
 - Fresh meat
 - Plant protein production
 - Crop Production
 - Modern Farming Practices – new and sustainable
 - Winter Cover Crops
 - Seed Technologies
 - Technology Improvements on Ag Production Equipment



Knowledge of Ingredients

- Co-Products Streams from Production of Human Foods

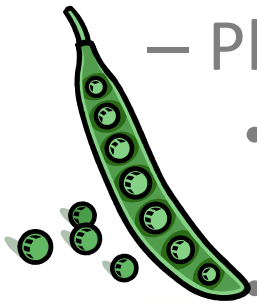
- Fresh Meat

- Unique ingredients developed that allow greater inclusion of fresh meat during extrusion
 - Recent advancements in extrusion technology also allowing higher percentage of fresh meat during extrusion



- Plant protein production

- Demand for plant based proteins in formulations on the rise – co-products are produced as a result
 - Utilize these co-product streams in current formulations



Knowledge of Ingredients

- Crop Production – Modern Farming Practices, New and Sustainable
 - Winter Cover Crops
 - Planted right after food-crop is harvested
 - Holds Soil from wind/water erosion
 - Decreases soil compaction
 - Moisture Conservation by reducing water run-off
 - Live plants/roots in soil at all times – healthy soil
 - Variety of plants that make up winter cover crops in conjunction with food crop mimics nature vs. monoculture type of agricultural production system



Knowledge of Ingredients

- Crop Production – Modern Farming Practices, New and Sustainable
 - Seed Technologies – affects Sustainability
 - Controversial issue – GMO Crops
 - Advancements in GMO Crop varieties allows food crops to be produced with reduced amounts of natural resources
 - Maximizes amount of food that can be produced in otherwise marginal production areas



Knowledge of Ingredients

- Crop Production – Modern Farming Practices, New and Sustainable
 - Technology on Ag Production Equipment
 - Variable rate seeding
 - Variable rate nutrient application
 - GPS w/Auto-Steer on Ag Equipment

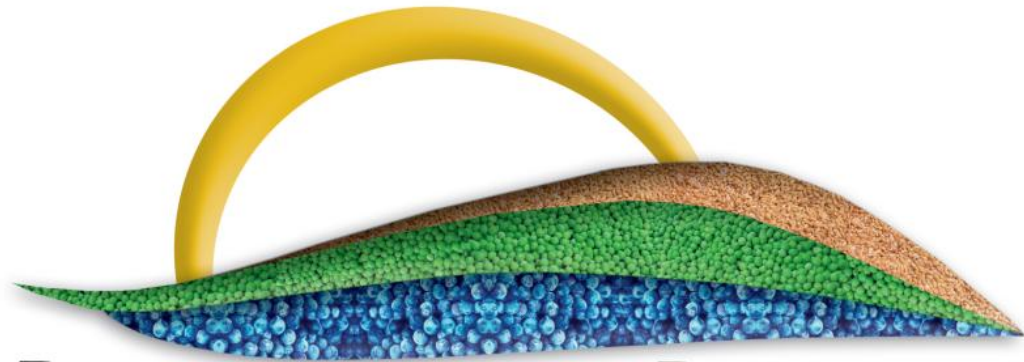


Is it Worth the Effort?

- Short Answer.....
 - By understanding the larger picture we can make progressive buying decisions that will impact sustainability *and* the bottom line
 - Knowledge is Power – increase your understanding!!!
 - Tell the story



Thank-you!



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