

Chapter 1

Introduction to U.S. DDGS – An Excellent Ingredient for Use in Animal Feeds

This 3rd Edition of the *U.S. Grains Council DDGS User Handbook* was developed to provide nutritionists, feed ingredient purchasers, feed manufacturers, and animal producers with the most up to date, scientifically based information available related to distiller's dried grains with solubles (DDGS). The Handbook includes:

- Detailed information on the production process, as well as new processes affecting nutrient composition of corn distillers co-products, which affect nutrient content, digestibility, and variability among sources. An added feature of this updated Handbook is inclusion of new studies relating to low fat DDGS;
- Comparisons of corn DDGS to other grain sources used to produce DDGS;
- Physical characteristics of DDGS and recommended laboratory analysis methods for evaluating quality and nutrient content;
- Comprehensive summaries of research information related to establishing maximum recommended dietary inclusion rates to achieve optimal animal performance for dairy and beef cattle, sheep and goats, swine, poultry, fish and companion animals; and
- Results from U.S. Grains Council sponsored DDGS feeding trials conducted in many countries around the world are also included.

By providing this comprehensive scientific review of DDGS information, we hope that it will give new and existing DDGS users the knowledge and understanding to provide a high level of confidence when purchasing and using this high quality feeding ingredient to obtain the best nutritional and economic value in animal feeds.



Recent record high feed ingredient prices around the world have caused animal nutritionists to search for lower cost alternative feed ingredients to minimize the cost of food animal production. **U.S. DDGS is an excellent, lower cost alternative feed ingredient that continues to be produced in large quantities by the dry-grind fuel ethanol industry.** The high energy, protein, and phosphorus content of DDGS make it a very attractive partial replacement for some of the more expensive traditional energy (corn), protein (soybean meal), and phosphorus (mono- or dicalcium phosphate) ingredients used in animal feeds. When DDGS is added to animal feeds that are properly formulated, it provides excellent animal health, performance, and food product quality. These attributes, and others, have made DDGS one of the most popular feed ingredients to use in animal feeds around the world.

Due to the large supply of U.S. DDGS currently being

produced, the quantity available for export has also increased in recent years. Likewise, the demand for U.S. DDGS has increased dramatically because end-users have obtained diet cost saving and many other positive benefits of using DDGS in animal feeds. Yet for many nutritionists, feed manufacturers, and animal producers around the world, DDGS is considered to be a new and unfamiliar feed ingredient. As with any new feed ingredient introduced to the market, there are many technical questions about the benefits and limitations to use DDGS successfully. Generally, the topics of most interest to DDGS end-users include: variability in nutrient content and digestibility among sources, physical characteristics (e.g. color, particle size, effects on pellet quality), dietary inclusion rates for various animals, effects on animal performance, and feed safety. All of these topics and more are discussed in detail in this revised *U.S. Grains Council DDGS User Handbook – 3rd Edition*.

The U.S. Grains Council (USGC) provides this comprehensive summary of nutritional information about DDGS to assist current and potential buyers in understanding its nutritional characteristics, recommended maximum dietary inclusion rates, and benefits and limitations for its use in animal feeds. As for any feed ingredient, end users of DDGS should consult, and seek assistance and advice from a qualified nutritionist when formulating diets and developing feeding recommendations. The USGC has no control over the nutritional content of any specific ingredient that may be selected for feeding. The USGC makes no warranties that these recommendations are suitable for any particular herd, flock, or animal. The USGC disclaims any liability for itself or its members for any problems encountered in the use of these recommendations. By reviewing this material, buyers agree to these limitations and waive any claims against USGC for liability arising out of this information.

For more information, please contact the U.S. Grains Council at 202-789-0789 or email grains@grains.org. You may also visit our website at www.grains.org.

