



U.S. GRAINS
COUNCIL

DDGS USER HANDBOOK

4th edition



Precision DDGS Nutrition

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PREFACE AND ACKNOWLEDGEMENTS

The U.S. Grains Council is pleased to publish this 4th edition of the DDGS User Handbook entitled “Precision DDGS Nutrition”. The first edition was published in 2007 (10 chapters, 142 pages), the second edition was published in 2009 (16 chapters, 234 pages), and the third edition was published in 2012 (35 chapters, 390 pages). Much has changed over the past 5 years in the production and nutrient composition of U.S. corn DDGS. Most notably, over 90 percent of U.S. ethanol plants are now using technology to partially extract some of the corn oil prior to manufacturing reduced-oil DDGS. This has resulted in a significant change in the nutrient profiles among DDGS sources and created new questions related to energy and nutrient digestibility and feeding value for all animal species. Furthermore, during the past five years, scientists in the U.S. and around the world have conducted innovative research to enhance the nutritional benefits and overcome the limitations of using DDGS in commercial animal feeding programs.

This 4th edition of the U.S. Grains Council DDGS User’s Handbook provides a detailed, comprehensive summary with in-depth nutritional insights and new discoveries from over 1,500 published scientific papers since 2010. Animal nutritionists and producers around the world have become increasingly focused on designing precision animal feeding programs that improve caloric and nutritional efficiency to produce high-quality, safe and nutritious food products, while improving environmental sustainability in food animal production systems. Corn DDGS is a unique feed ingredient

that is not only an excellent, abundant, and economical source of energy, protein, and phosphorus in diets for all animals, but it also contains many “value-added” properties that provide additional animal health and environmental benefits. This DDGS Handbook is intended to be used by anyone and everyone involved in the production, marketing, purchasing, and use of U.S. corn DDGS and co-products in animal feeds.

The author of this 4th edition, and the three previous editions of the *U.S. Grains Council DDGS User Handbook*, is Dr. Gerald (Jerry) Shurson, Professor of Animal Nutrition in the Department of Animal Science at the University of Minnesota, St. Paul. Dr. Shurson is a world-renowned, leading expert on the nutritional value and feeding applications of DDGS in animal feeds for all species. He has led an active DDGS research program for 20 years, has collaborated extensively with many other DDGS researchers, and has served as a DDGS technical consultant for the U.S. Grains Council in all export market regions around the world since 1998.

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