

Reports from the Field

Swine Producers Report:

- Improved average daily gain (ADG)
- Improved feed conversion
- Reduced death loss
- Improved average litter birth weight
- Increased number of pigs weaned per litter
- Improved 21-day weights
- Reduction in / elimination of antibiotics used

Dairy Producers Report:

- Reduction in antibiotic use
- Fewer herd health problems
- Fewer retained placentas
- Shortened calving to conception periods
- Improved conception rates
- Stronger calves at birth
- Improved milk components

Poultry Producers Report:

- Reduction in % protein normally fed to flocks, while maintaining the same performance
- Increased palatability in finished rations
- Reduction in mortality
- Reduction in morbidity
- Improved feed conversion: Reduced lifetime feed consumption
- Reduction of antibiotics
- Reduction in / elimination of antibiotics used

Feed Lot Managers Report:

- Improved rate of gain
- Improved feed conversion
- Reduced feed lot stress
- Improved general health

Size/ Item Number

D.U.A.™ - 25 Pound Bag - Item no. A037

Also Available:

D.U.A. G.R.P.™ - 25 Pound Bag
Item no. A101

(Totes available upon request)

Ask us which product best suits your needs!

Our Mission:

To achieve maximum animal health with **natural, antibiotic-free, and organic** nutrients through Applied Common Sense, Technology and Services.

For over forty years, **Advanced Biological Concepts®** has been dedicated to achieving maximal animal health through the use of nutritional technology, with the goal of helping produce drug and hormone free meat, milk, and eggs. Animal health problems are due to nutritional deficiencies and related environmental conditions.

The staff and crew at **Advanced Biological Concepts®** are happy to answer your questions and to provide resources.

Ask us how to help you create solutions for your livestock that will maximize animal health!

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Contact your ABC Representative for More Information

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FPD746-4

Advanced Biological Concepts®

Supplementation for Conventional, Natural, and Organic Management

D.U.A.™

Digestion Utilization Absorption



Experience the Freedom of Healthy Livestock!

ADVANCED
BIOLOGICAL
CONCEPTS®
Applied Common Sense.





D.U.A.™

Dietary Nutritional Supplement for Dairy Cattle,
Beef Cattle, Sheep, Goats, Swine, Poultry, and Llamas

GUARANTEED ANALYSIS

Crude Protein	(min)-----	12.0 %
Lysine	(min)-----	0.05 %
Methionine	(min)-----	0.05 %
Crude Fat	(min)-----	3.5 %
Crude Fiber	(max)-----	15.0 %
Acid Detergent Fiber (ADF)	(max)-----	32.0 %
Calcium (Ca)	(min)-----	5.0 %
Calcium (Ca)	(max)-----	6.0 %
Phosphorus (P)	(min)-----	1.0 %
Salt (NaCl)	(min)-----	3.0 %
Salt (NaCl)	(max)-----	3.5 %
Sodium (Na)	(min)-----	1.0 %
Sodium (Na)	(max)-----	1.5 %
Copper (Cu)	(min)-----	650 PPM
Copper (Cu)	(max)-----	750 PPM
Zinc (Zn)	(min)-----	1,500 PPM
Vitamin A	(min)-----	180,000 IU/LB

DIRECTIONS FOR USE:

DAIRY CATTLE:

Top Dress or Admix:
1/2 ounce (14.17 g) per head per day

CALVES:

Top Dress or Admix:
1/2 ounce (14.17 g) per head per day

BEEF CATTLE:

Top Dress or Admix:
1/4 ounce (7.09 g) per head per day

Receiving:

Top Dress or Admix:
1/2 ounce (14.17 g) per head per day for 14 days

SHEEP & GOATS:

Top Dress or Admix:
1/8 ounce (3.54 g) per head per day

SWINE:

Finishing:
Add **3 Pounds** Per Ton of Complete Ration

Grower and Lactation:
Add **5 Pounds** Per Ton of Complete Ration

Starter and Gestation:
Add **7 Pounds** Per Ton of Complete Ration

POULTRY:

Starter:
Add **4 Pounds** Per Ton of Complete Ration

Complete Feed:
Add **2 Pounds** Per Ton of Complete Ration

LLAMAS / EMUS / ALPACAS:

Top Dress or Admix:
1/4 ounce (7.09 g) per head per day

Reference Guide to Some Benefits of D.U.A.™

1. Protein Sparing Effect:

The protein sparing qualities of D.U.A.™ can be used to reduce the amount of protein normally fed to livestock. This results in cost savings and reduced metabolic stress.

2. A Fermentation Product:

D.U.A.™ is predigested through fermentation. Animals receiving D.U.A.™ expend less energy to obtain increased nutritional energy.

3. Optimizing pH:

D.U.A.™ fosters a lower pH in the gut and rumen. Most disease-causing organisms prefer a high pH. A low pH creates a hostile environment for pathogenic organisms and an optimal environment for beneficial organisms.

4. Single-Cell Protein:

2% or more of the protein in D.U.A.™ is single-celled protein, an exceptionally bioavailable form of protein.

5. B-Vitamins:

B-Vitamins are produced through the D.U.A.™ fermentation process. B-Vitamins are critical to stressed animals and high-producing ruminants, who produce their B-vitamins through rumen fermentation.



Discover the Difference D.U.A.™ Can Make

D.U.A.™ Assists With:

- Enhancing beneficial microorganisms
- Withdrawals due to medications
- Detoxification
- Blood cleansing
- Hemoglobin building
- Enhancing protein utilization and assimilation
- Stimulating appropriate immune system function
- Reducing somatic cell count
- Adjusting pH of the gut or rumen
- Success of drug-free protocols
- Assimilation of chelated minerals

Field work* over the years has shown that:

1. D.U.A.™ increases Neutral Detergent Fiber (NDF) digestion. In vitro tests showed: 225% increase in digestion of grain mix, 69.5% increase in digestion of grass hay and an 18% increase in digestion of alfalfa hay.
2. D.U.A.™ at 1/2 ounce / head / day increased the utilization of protein at levels equivalent to 3.1 pounds of 48% soybean meal.
3. D.U.A.™ at 1/4 ounce / head / day in beef cattle resulted in increases in average daily gain ranging from 10-35%.
4. D.U.A.™ at 1/4 ounce / head / day in bulls tested resulted in a 24% reduction in feed costs and a 7% increase in gain.

*Research is on file and available by request.

D.U.A.™ Product Research Brief

There are two basic groups of microorganisms in the biome. The majority are beneficial or “good”, while others are pathogenic or “bad”. When proper balance is maintained, an animal is healthy, grows at a good rate and converts feedstuffs efficiently. When balance is upset due to stress or other factors, livestock become ill, and feed conversion and animal health decline.

Recognizing the importance of this microbial balance, companies started providing direct-fed microbials. Provided as high levels of pure cultures of healthy bacteria, the intent was to prevent the bad bacteria from taking over the system. This has led to a numbers contest where producers buy high concentrations of good bacteria, *Lactobacillus acidophilus* being one of the most common.

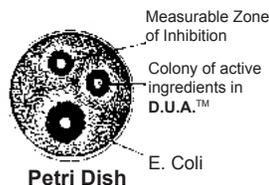
Lactobacillus acidophilus does not attack bad bacteria. It functions as a **probiotic** that competes for space among the other organisms. Once established, it develops a zone around itself where pathogenic organisms do not grow. This area is called the **zone of inhibition** - indicative of the inhibition of the growth and development of pathogens.

D.U.A.™ provides these properties, which is the reason why D.U.A.™ functions without the need for live organisms.

D.U.A.™, in final form, is not a source of live organisms. However, it does supply the by-products these microbes produce. The active ingredients in D.U.A.™ have demonstrated the ability to retard the growth of 22 pathogenic organisms. D.U.A.™ provides the benefits obtained from live cultures, without the problems and concerns of using pure cultures.

Microbial Benefits

In vitro antibiosis studies, D.U.A.™ exhibited a retardation of the normal development cycle of the following pathogenic organisms.



Inhibition Level

	Moderate 12 to 14 mm	Strong 15 to 19 mm	Very Strong 20 mm
<i>Acinetobacter spp</i>		16 mm	
<i>Salmonella enteritidis</i>		16 mm	
<i>Serratia marcescens</i>		16 mm	
<i>Staphylococcus aureus</i>		16 mm	
<i>Streptococcus pyogenes</i>		16 mm	
<i>Proteus spp</i>		17 mm	
<i>Pseudomonas aeruginosa</i>		17 mm	
<i>Salmonella newport</i>		17 mm	
<i>Salmonella schottmuelleri</i>		18 mm	
<i>Salmonella typhimurium</i> ATCC 13311		18 mm	
<i>Shigella dysenteriae</i>		18 mm	
<i>Escherichia coli</i>		18 mm	
<i>Klebsiella pneumoniae</i> ATCC 13866		19 mm	
<i>Salmonella choleraesuis</i>		19 mm	
<i>Salmonella typhi</i>		19 mm	
<i>Streptococcus equinus</i>		19 mm	
<i>Bacillus subtilis</i> I A43 “Upjohn Strain”			20 mm
<i>Streptococcus bovis</i>			21 mm
<i>Clostridium perfringens</i>			22 mm
<i>Sarcina lutea</i>			22 mm
<i>Corynebacterium spp</i>			22 mm

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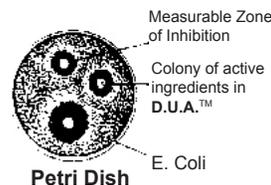
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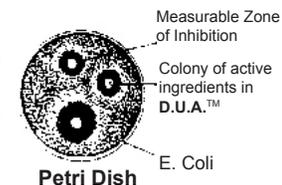
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