



**SUMAGROW**

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**FORAGE & HAY CROPS**

# MISSISSIPPI RIVER BASIN



STATES THAT DRAIN INTO  
THE GULF OF MEXICO

## CHALLENGES FACING FORAGE AND HAY PRODUCERS

**NEW REGULATIONS ARE EMERGING** as the concerns surrounding ground and surface water pollution continue to rise. For example, the basin of the Mississippi River captures 41 percent of the land area of the 48 contiguous states of the US and carries substantial amounts of nitrogen, phosphorus, and other chemical pollutants into the Gulf of Mexico. If the current court cases demanding the EPA establish mandated nutrient limits are successful, producers in 30 states, including thousands of acres of cropland, may become highly regulated and be adversely affected.

**CROP YIELDS REMAIN UNCHANGED OR ARE DECREASING** despite the dramatic increase in fertilizer use in the last 50 plus years. Here a few reasons why.

**THE INCREASING COST OF FERTILIZER** is alarming and can account for 50 percent or more of the cost of growing forage. Unfortunately, no significant decreases in the cost of commercial fertilizer are expected anytime soon.

**LAND DEGRADATION** for cropland and pastureland costs around \$44 billion per year in the US and \$400 billion globally. And it's growing.

**WATER CHALLENGES** impact millions of lives and cost billions of dollars in damages. Recent events, including record-breaking drought and severe flooding have elevated an international dialogue on the state of our water resources, infrastructure, and fertility of our soils. Products containing SumaGrow® are a part of the solution.



# WHY SUMAGROW AGRICULTURAL BIOLOGICALS?

SumaGrow®'s microbial products are made from native soil microorganisms that offer real benefits to growers, like improving nutrient uptake, maximizing crop quality and

yield, and reducing fertilizer costs. The **AGRICULTURAL BIOLOGICALS** in SumaGrow® support long term soil fertility for **OPTIMAL CROP PERFORMANCE**.



## WHAT DOES THIS MEAN FOR YOU?

### REDUCE AGRICULTURAL INPUTS

On average, SumaGrow® products reduce fertilizer demands by 15 to 20 percent while improving crop performance. Between 40 to 60 percent of nitrogen fertilizer runs off or volatilizes into the atmosphere, contaminating surface and

groundwater, and wasting valuable resources. SumaGrow® inside products work to **IMPROVE FERTILIZER EFFICIENCY** to ensure the plant uptakes the nutrients it needs during each stage of development.

### INCREASE CROP QUALITY AND YIELDS

SumaGrow® products increase crop production on average 15 to 20 percent and raise the nutritional density of foods. Studies on the nutrient content of foods over the past 70 years show a disturbing decline in minerals, vitamins, and

proteins. SumaGrow® biologicals increase soil fertility and nutrient efficiency, and grow grasses with, longer, denser root systems to capture untapped water and nutrient resources to grow **HEALTHIER, HARDIER CROPS**.

### REDUCE IRRIGATION DEMANDS

Fertile soil holds more water. The microorganisms in SumaGrow® biologicals increase soil productivity by increasing organic matter, creating better soil tilth, and reducing soil compaction. For every 1 percent of organic

matter content, the soil can hold an additional 16,500 gallons of plant-available water per acre. In turn, fertile soil **SUPPORTS CROPS LONGER IN DROUGHT CONDITIONS** and dries out faster following excessive rainfall.

	BRIX	ADG (LBS)	AUM	COST/ACRE	ADVANTAGE
SUMAGROW®	4.50	2.35	3.67	\$40.00	+\$101.45
GROWER STANDARD	4.50	2.08	1.67	\$137.01	-\$170.01
CONTROL	4.00	2.08	2.00	\$0.00	-----

In a study on beef steers summer grazing performance, SumaGrow® treated plots of BMR sorghum, showed a higher Average Daily Gain (ADG), a higher Animal Unit month (AUM), and a significant cost advantage when compared to traditional grower standard (nitrogen fertilization) and a control (no treatment).

**Products containing SumaGrow® are good for the SOIL, the PLANT, the PRODUCER, and the ENVIRONMENT.**

## WHY SUMAGROW®?

Bio Soil Enhancers, Inc. (BSEI) has been manufacturing SumaGrow® biologicals specific to agriculture for almost **A DECADE**. While many mega companies are introducing their first microbial product, BSEI has invested over 20 years in research and development of biologicals for industry. We continue to demonstrate the benefits of using agricultural biologicals for higher yields, lower input costs, and improved water efficiency.

With the best and brightest team of microbiologists, environmental scientists, and agricultural consultants, we have performed research studies and conducted independent field trials on a variety of crops in diverse climates and soil conditions **AROUND THE WORLD**. SumaGrow® Inside products are sold in over 40 countries and have been recognized by Stockman GrassFarmer, Bison World, Forbes.com, Popular Science, and more, for **MAXIMIZING YIELDS, REDUCING FERTILIZER** and **IMPROVING THE WATER HOLDING** capacity of the soil.



SUMAGROW

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