



More From Every Acre . . . More From Every Animal

Enhancing Forage Yields, Storability and Feed Quality

Profitability in dairy and beef operations is tied to the cost and quality of the forage that is fed to the animals. Forage yield and quality is determined by our soil health, which, in turn, is determined by the nutrient content, balance, availability and soil biological health.

Once harvested, maintaining or improving the quality and feedability of forage is critical. Proper processing and storage should improve digestability, palatability, prevent toxins or molds from developing and reduce storage loss. **ProfitProAG has developed a two punch program to improve forage yield, quality and storability.**

Hay Alfalfa & Pasture Management Plan			
Base recommendation on a Soil Analysis, Tissue Test, Refractometer Readings, Soil Mineral Balancer and Crop Nutrient Calculator.			
Established Crop	Product	Application Method	Rate/Acre
Fall or Spring app.	Catawater [®] AG	Fall or Spring application	3.2 ounces
	Soft Rock Phosphate (prill) (0.5-16-1.5-24Ca + trace elements)	Fall or Spring broadcast	300 to 600 pounds (refer to soil analysis)
	Potassium Sulfate (prill) (0-0-50-18)	Fall or Spring broadcast	50 to 200 pounds (refer to soil analysis)
	Pelletized Lime (0-0-0-36Ca) (CaCO ₃)	Fall or Spring broadcast	Variable
	Pelletized Gypsum (0-0-0-23Ca – 17S) (CaSO ₄)	Fall or Spring broadcast	Variable
	Elemental Sulfur (95 to 98% granule)	Fall or Spring broadcast	Variable
At green-up in Spring	10-34-0	Foliar	3 to 4 gallons
	+ Bio-Release [™]		0.5 to 1 gallons
	+ Molybdenum 3%		1.5 ounces
	+ Foliar MicroBoost [™]		32 ounces
	+ K-30 (0-0-30)		32 ounces
Forage (after each cutting): Pasture (June & August):	Molybdenum 3%	Foliar	1.5 ounces
	+ Foliar MicroBoost [™]		32 ounces
	+ Bio-Release [™]		32 ounces
	+ K-30 (0-0-30)		32 ounces
Use Bio-Mineral[™] 75 for carrier instead of water (this will approximately add 25% yield increase) at 15 gallons/acre.			
Note:	<ul style="list-style-type: none"> ProfitProAG[®] has a high yield and quality (High Brix) program for corn silage Roundup[®] Ready alfalfa requires foliar applications of micronutrients to maintain forage quality 		

BIO-MINERAL 75[™] 75-mineral biological plant food

GENERAL INFORMATION: Bio-Mineral 75 contains 75 or more chelated colloidal minerals. When applied to the crop root zone or foliage, these minerals supply the required structural and functional minerals necessary to achieve healthy and improved crop growth and production. The mineral elements, supplied by **Bio-Mineral 75**, are often missing from the soil, which reduces the crops health, yield potential and quality. Achieving high grain, forage and plant quality traits are dependent on acquiring these necessary minerals.

Bio-Mineral 75 is a natural blends of organic **Mineral 75 Ore** and a **Mineral 75 Ore Solubilizer**. Mineral 75 Ore when solubilized with Mineral 75 Ore Solubilizer supplies over 75-minerals for use by plants. Mineral 75 Ore Solubilizer unlocks, solubilizes and stabilizes the minerals in Mineral 75 Ore. Apply at 15 to 20 gallons final mix per acre. Must be applied with a 25 mesh or less screen.

Forage Enhancer™

+

Fermentation Minerals™

Preserving and enhancing high moisture forages, roughage, corn silage & grains Enhances high moisture feed fermentation & digestive process of ruminant animals

GENERAL INFORMATION: Forage Enhancer, used in combination with Fermentation Minerals on high moisture forages, roughage, corn silage or grains, improves the feed value and utilization by livestock.

DIRECTIONS FOR USE: Apply to 20 to 70 percent moisture forage, roughage (straw, corn stalk, etc.), corn silage or high moisture grains at the following rates:

Feed Type	Forage Enhancer/Ton	Fermentation Minerals/Ton
High Moisture Forages / Corn Silage	½ gallon/ton	½ oz/ton
High Moisture Roughage	1 gallon/ton	½ oz/ton
High Moisture Grains	¾ gallon/ton	½ oz/ton

Mix the Forage Enhancer and Fermentation Minerals together. Apply a very light spray to the surface area of the plant materials being treated.

Performance in large squares is better than round bales. On unwrapped round bales, use ¾ gallon per ton. Wrapping the harvested crop is the best for complete fermentation. The outer layer of unwrapped round bales may show some white yeast growth because of increased oxygen content. This is not mold; it is a beneficial yeast growth, which will not harm the animal. Livestock find this very palatable.

Measuring Forage Quality In-Field

A refractometer is an easy and quick way to measure forage quality in-field. Refractometers measure total dissolved solids in plant sap, which is referred to as the Brix reading (measured on a scale of 0 to 30). Brix readings of less than 12 indicate poor soil health and growing conditions, while readings greater than 12 mean good soil health and growing conditions.

Within a given species of plant, the crop with the higher refractive index will have a higher sugar content, higher mineral content, higher protein content, and a greater specific gravity or density. This adds up to a sweeter tasting, more minerally nutritious food with a lower nitrate and water content and better storage characteristics. It will produce more alcohol from fermented sugars and be more resistant to insects.

Crops with a high sugar content will have a lower freezing point and, therefore, be less prone to frost damage. Soil fertility needs may also be ascertained from this reading

	Reactive Index of Crop Juices			
	Calibrated in % Sucrose or Degree Brix			
	Poor	Avg.	Good	Excellent
Alfalfa	4	8	16	22
Corn/Grass	6	10	18	24

Visual Refractometer



What is the impact of high Brix forage on milk production?

Feeding 18 plus Brix forage versus 8 to 10 Brix will have a very noticeable impact on quantity and quality. Some producers have reported as much as 20% more milk within two days after switching to higher Brix forage. The high Brix forage has higher content of sugars, minerals protein and greater specific gravity, all of which drive milk production.

In-field Pasture Observations

- Grass is thicker with higher brix readings
- Pasture more productive throughout season
- Cattle graze less often
- Stays greener longer



For more information, call ProfitProAG at 1-888-875-2425 (toll free) or go to www.profitproag.com to find a Service Rep in your area