

454™ An essential oils product

Direct fed application for all livestock and poultry

The use of natural plant extracts and their secondary compounds in animal feeding has become an area of much research and opportunity.

Suther’s 454™ is a proprietary blend of essential oils that unites industry’s latest research with real world application to drive performance and livestock profits. Essential oil compounds are critical elements that have been extracted from specific plants because of their varying degrees of antibacterial, antiviral, antifungal, anti-inflammatory and antioxidant properties. These “essential extracts” offer new opportunities for today’s livestock producer to consider.

Chilli peppers a “powerful feed ingredient”



Effects of essential oils in livestock feeds--A wide range of implications have been studied in numerous research trials. Responses range from numerically different but not statistically significant to highly statistically significant. It is clear that under certain conditions essential oils can impact all of the following

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| <ul style="list-style-type: none"> • Microbial growth and fermentation • Volatile Fatty Acid (VFA): total volume and relative proportions • Microbial protein production: numbers and efficiency • Methane production • Rumen ammonia levels • Rumen pH • Dry matter intake and eating patterns | <ul style="list-style-type: none"> • Feed efficiency • Milk production • Milk components: marketable, MUN and SCC • Carcass characteristics • Digestibility: ruminal and total tract • Immune status |
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---from Progressive Cattlemen Magazine April 2012

How does 454 work?

Mode of Action

Impact

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|------------------------------|--|
| ↑ Frequency of meals | ↑ the pattern of meals consumed = ↑ total feed intake |
| ↑ Water intake and frequency | ↑ level of homeostasis throughout the day |
| ↓ Digestive upsets | ↑ number and frequency of meals = more controlled digestive system |

- ✓ Essential oils increased dry matter intake by 9% with a range of 7 to 15%¹
- ✓ Higher dry matter intakes caused NO reduction in rumen pH¹
- ✓ Essential oils have been shown to alleviate heat stress in humans and animals, increasing performance and feed intakes.¹

¹Effects of dietary addition of capsicum extract on intake, water consumption, and rumen fermentation of fattening heifers fed a high-concentrate diet, Dr. Sergio Calsamiglia, University of Barcelona

Bottom line...increased performance, increased profit!



Product Form and Package Size:

Suther’s 454™ is available in meal form with three convenient concentrations.

- 84490: Suther HS 1 Gram, a highly concentrated form ideal for use in existing supplements or basemixes/premixes. This product is heat stable and designed for use in micro machines and tables. Package size 40 pound bag.
- 84698: Suther HS 300, a ready to use concentration that can be mixed directly into feed rations or top dressed for ease of feeding. Package size 40 pound bag.
- 144: Suther AP5, a combination product containing 454™ along with ingredients that are thought to bind toxins and cause them to pass through the animal, thereby reducing the toxin loads. Package size 50 pound bag.

Feeding Directions:

Beef Cattle

Code #	Product Name	Feeding Rate Cattle/Confined	Price/Day	Feeding Rate Cattle/Grazing	Price/Day
84490	Suther HS 1 Gram	1000 mg/day	\$0.033	500 mg/day	\$0.0167
84698	Suther HS 300	0.25 lbs/day	\$0.108	0.125 lbs/day	\$0.054
144	Suther AP5	4.54 grams/day	\$0.034	4.54 grams/day	\$0.034

Dairy

Code #	Product Name	Feeding Rate Dairy/Lactation	Price/Day
84490	Suther HS 1 Gram	1700 mg/day	\$0.056
84698	Suther HS 300	0.40 lbs/day	\$0.17
144	Suther AP5	7.56 grams/day	\$0.057

Swine

Code #	Product Name	Feeding Rate Lactation/Gestation	Price/Ton	Feeding Rate Nursery/Grower	Price/Ton	Feeding Rate Grow/Finish	Price/Ton
84490	Suther HS 1 Gram	.33 lbs/ton	\$5.06	.75 lbs/ton	11.40	.33 lbs/ton	\$5.06
84698	Suther HS 300	37.5 lbs/ton	\$16.22	75 lbs/ton	\$32.45	37.5 lbs/ton	\$16.22
144	Suther AP5	2 lbs/ton	\$6.86	4 lbs/ton	\$13.73	2 lbs/ton	\$6.86

Turkey

Code #	Product Name	Feeding Rate Turkey	Price/Ton
84490	Suther HS 1 Gram	3 lbs/ton	\$45.60

Deer

Code #	Product Name	Feeding Rate Deer	Price/Day
84490	Suther HS 1 Gram	500 mg/day	\$0.0167
84698	Suther HS 300	0.125 lbs/day	\$0.054