



## SECURITY

Proprietary blend of essential oils which have demonstrated improved animal health and performance.

- Vasodilation
- Signaling of bodily functions
  - Gut health
  - Immune function
  - Feed Intake Regulator
  - Water Intake Stimulator
  - Rumen modification
- Works in combination with current technologies

## SECURITY - 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.

Suthers Solutions **Security** 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.

Effects of essential oils in livestock feeds--A wide range of implications have been studied in numerous research trials. Responses range biologically significant to highly statistically significant. Under certain conditions essential oils can impact the following:	
• Microbial growth and fermentation	• Feed efficiency
• Volatile Fatty Acid (VFA): total volume and relative proportions	• Milk production
• Microbial protein production: numbers and efficiency	• Milk components: marketable, MUN and SCC
• Methane production	• Carcass characteristics
• Rumen ammonia levels	• Digestibility: ruminal and total tract
• Rumen pH	• Immune status
• Dry matter intake and eating patterns	

### How does Security work?

Mode of Action	Impact
↑ 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%

Higher dry matter intakes caused NO reduction in rumen pH

Essential oils have been shown to alleviate heat stress in humans and animals, increasing performance and feed intakes.

**Bottom line...increased performance, increased profit!**