Feed - A Sustainable Future

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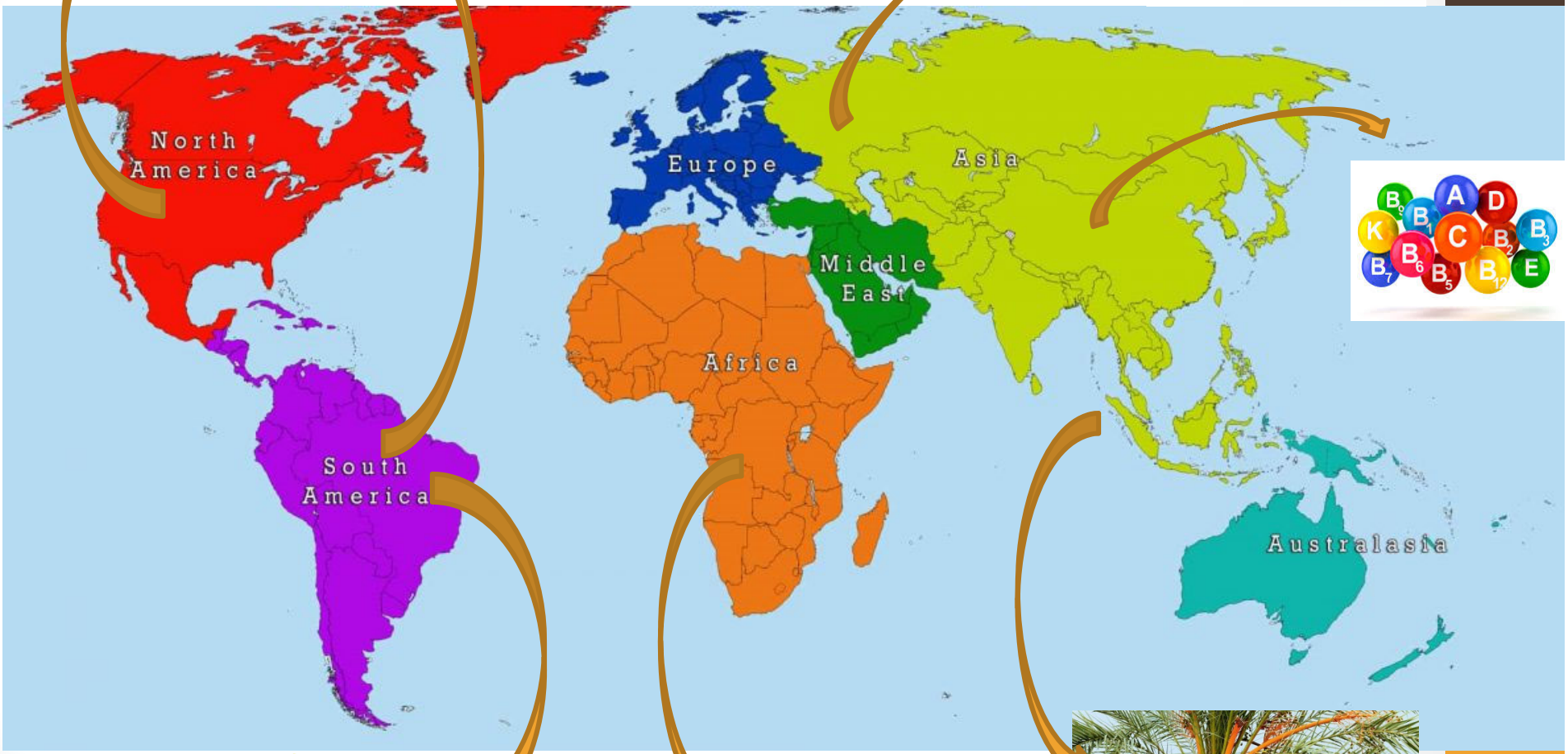
Raw Material Supply

- **Soya**
- **Palm**

Reduction in Anti-biotic usage

UK One Health Report


North America
Europe
Asia
Middle East
Africa
South America
Australasia


Copper Sulfate

UK Imports

- 3 million tonnes/year of soya, 1.1 million tonnes used for feed
- 600,000T palm oil - 150,000T used for animal feed*
- 600,000T palm kernel meal* -80% used for feed and 20% for other uses eg biofuel
- 55,000T certified sustainable palm oil

DEFRA - **MAPPING AND UNDERSTANDING THE UK PALM OIL SUPPLY CHAIN AND REVIEW OF POLICY OPTIONS**

The feed industry is committed to reducing the requirement for palm and soya products:

What do we replace them with?

The future of protein supply in organic feed

- Synthetic amino acids not permitted
- High genetic breeds require high levels of amino acids:
  - Eg laying diets require 0.31% methionine

- Lysine and methionine requirements met by soya and other proteins

- Using synthetic amino acids could save almost £50 per tonne, 5% soya and 5% sunflower meal

	Organic %	Organic + Amino acids%	
Layers mineral	2.5	2.5	
Limestone	9	9	
Soya	12	7	-5%
Wheat	32.7	42	+9%
Barley	15	15	
Field Beans	5	5	
Lucerne	5	5	
Potato Protein	2.5	0	-2.5
Sunflower	14	9	-5%
Peas	2	5	+3%
Lysine		0.19	
Methionine		0.08	
Herban (oregano oil)	0.3	0.3	
	£376.24	£328.49	

Alternatives to Medicines

Houses of PARLIAMENT Postnote 588 outlines the efforts made to reduce anti-biotic usage in animal feed , which has significantly reduced in recent years.
Coccidiosis is a parasitic challenge which costs approximately £30 per affected calf. It can be treated with a medicated product, Deccox, a coccidiostat.
Some coccidiostats also inhibit or kill bacteria, and development of resistance by coccidia, and bacteria has been shown for some types of coccidiostats. The incidence of coccidiosis is seen when conditions are similar to those requiring the most anti-biotic treatments, such as poor husbandry, and poor housing and hygiene

Our trial was carried to look at the effects of a non-medicated drench based on oregano oil, which has been shown to have beneficial effects in poultry facing the coccidia challenge.

*https://veterinary-practice.com/article/the-costs-of-coccidiosis

Duchy College Farm, Cornwall

Herbaboost - Single dose drench - 30ml of oregano oil, energy and B vitamins

1 batch of 29 calves trialled on a single dose drench and a product dosed daily through milk

Coccidiosis in calves

Faecal Egg Counts

Analysis was carried out by approved laboratories to determine whether there was evidence of coccidiosis and the number of oocytes present in dung

Rear End/Dung Scoring

Both cryptosporidium and coccidiosis can be contracted through dung in calf pens; cleanliness of calves is of great importance, and a simple scoring chart was developed to measure the cleanliness of calves' rear ends.

Daily Liveweight Gain (DLWG)

Due to the gut conditioning properties of oregano oil, Herbaboost can improve feed conversion rations by reducing the challenge posed by oocytes, and therefore potentially reducing weaning time and costs.

Herbaboost			Alternative Calf Product		
Ear Tag Number	+ve/-ve Result	Oocyst Count (eggs per gram)	**Ear Tag Number**	+ve/-ve Result	Oocyst Count (eggs per gram)
92	-	0	**93**	-	0
94	-	0	**95**	-	0
96	-	0	**97**	+	720
98	-	0	**101**	+	2400
100	-	0	**103**	+	480
102	-	0	**105**	+	240
104	-	0	**107**	+	240
106	-	0	**109**	-	0
108	-	0	**111**	-	0
110	-	0	**113**	-	0
112	+	480	**115**	+	960
114	-	0			
116	+	240			

These results suggest that there is a significant difference in using Herbaboost to reduce the effects of coccidiosis against the alternative product that is currently in use on farm."

Product	1-4 week average DLWG g/day	4-8 week average DLWG kg/day	Total Average DLWG Kg/day
Herbaboost	529	2.25	1.39
Alternative Product	485	2.12	1.30

Results show that those calves that were given Herbaboost had an increased liveweight gain from weeks 1-4 and weeks 4-8 and therefore an increased liveweight gain over the entire weaning period. Over the 8 week weaning period this difference in average liveweight gain equates to a difference in weaned weights of approximately 5kg

Average Rear End Scores	
Herbaboost	**Alternative Product**
1.5	**1.75**

In order to ascertain rear end cleanliness, a scoring chart was developed to consistently score the rear end of the calves. As coccidiosis and can be passed from dung, ensuring clean conditions for calves is of utmost importance. Results from the trial show that those calves that were drenched with Herbaboost were cleaner in the rear end than those calves that were given the alternative product

Messy bums cause bacteria to spread and proliferate!

Alternatives to antibiotics and other animal medicines are one piece of a jigsaw that includes improvements to hygiene, welfare and nutrition.

References:

Norwegian Scientific Committee for Food and Environment – The risk of development of anti-microbial resistance with the use of coccidiostats in poultry diets