



# Weight Gain in the Hard Keeper: Oil & Bloom



October Educational Webinar  
2017

Dr Tania Cubitt  
Performance Horse Nutrition



**Oil**

**dac**  
IN A WORLD OF SUPPLEMENTS

Manufactured by:  
DIRECT ACTION COMPANY  
P.O. BOX 2205,  
DOVER, OH, 44622  
1-800-921-9121

www.feeddac.com

**QUALITY SEAL**  
maise  
ORIGINAL ANIMAL SUPPLEMENT COMPANY

**FEEDING DIRECTIONS:**  
Adult 100 lbs or less: 1-2 scoops (1-2 pumps)  
Adult 1000 lbs or less: 3-5 scoops (3-5 pumps)  
Performance: 4-6 scoops (4-6 pumps)  
Lactating: 3-5 scoops (3-5 pumps)  
Weight Gain: 5-10 scoops (5-10 pumps)

**Guaranteed Analysis (per 1 pound):**

Crude Fat (min)	350 g
Total Fatty Acids (min)	150 g
Crude Protein (min)	10 g
Crude Fiber (max)	10 g
Moisture (max)	10 g
Weight (min)	2.25 lb

**Caution:** Do not use if animal gets ill. Not for use in pregnant or lactating animals. Contains 4000 IU Vitamin E per cup. Use in accordance with directions on container label.

Old Formula primarily Corn Oil  
New formula primarily Canola Oil  
Clearer color, No sediment  
4000 IU/lb 100% natural Vitamin E – Health E Oil has 1000 IU/lb  
2 cups (16oz, 16 pumps) = 4000 IU/lb Vitamin E



- No significant vitamin E,
- No marine based omega 3's



- Natural Vitamin E 2400 IU/Lb
- No marine based Omega 3's



- Natural Vitamin E 1000 IU/Lb
- No marine based Omega 3's

\*Maintenance: 1-2 scoops per day (3,000-2,000 IU vitamin E per day)  
\*Intense training: 3-5 scoops per day (3,000-5,000 IU vitamin E per day)



- Natural Vitamin E 250 IU/Lb
- No marine based Omega 3's



\*Pregnant/lactating mares: 3 scoops per day (3,000 IU vitamin E per day)  
\*Foals: 3 scoops per day (3,000 IU vitamin E per day)  
\*Stallions: 3 scoops per day (3,000 IU vitamin E per day)

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# THIN HORSE FEEDING



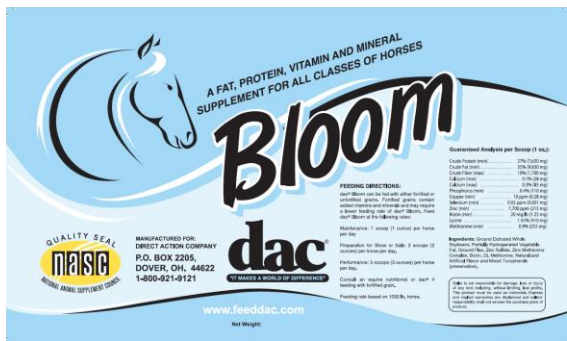
Ingredient	DE Mcal/lb	Additional lbs/day
Oats	1.5	4.4
Rice Bran	1.5	4.4
Beet Pulp (dry, no molasses)	1.27	5.2
Alfalfa hay	1.1	6.0
Oil	4.6	1.4 (a little over 2 cups)

\*Needed an additional 6.6 Mcal/day above maintenance



# OIL

- Has been shown in several studies by adding oil/fat to the diet and decreasing sugars and starches a calmer demeanor has been recorded.



- 1100lb, Light exercise – crude protein req 700g per day – Bloom has 7.6g per oz
- Would take 92 oz of bloom to meet daily req

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## BIOTIN AS A COENZYME



- Biotin acts as a coenzyme in the body that's needed for the metabolism of fatty acids, amino acids and glucose.
- This means that when we eat foods that are sources of fats, proteins and carbohydrates, vitamin B7 biotin must be present in order to convert and use these macronutrients for bodily energy, to carry out physical activities and for proper psychological functioning
- Biotin also helps keep a young, attractive appearance since it plays a major part in maintaining the health of hair, nails and skin
- Biotin sometimes gets the nickname the "H" vitamin, which stems from the German words *Haar* and *Haut* that mean "hair and skin."




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## BIOTIN AND SKIN DISORDERS



- Signs of overt biotin deficiency include hair loss (alopecia) and a scaly red rash around the eyes, nose, mouth, and genital area
- In a collaborative study with small animal surgeons
- 119 cases of dogs with fur and skin conditions (dull coat, brittle hair, alopecia, scaly skin, pruritus or dermatitis)
- Treatment; ~ 5 mg biotin / 10 kg BW / day for 3 to 5 wk
  - 60% of cases reported all symptoms cured
  - 31% reported improvement
  - 9% recorded no effect
- Most horse nutritionists indicate 20 mg/hd/d may yield
- positive results in hoof horn in 8 to 12 months




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## ZINC AS TOPICAL THERAPY



- Zinc has been used empirically for over 3500 years!
  - By observation or experience...not theory
- First recorded in Egyptian Papyrus Ebers c. 1550 Bca
  - The most voluminous record of ancient Egyptian medicine known. The scroll contains some 700 magical formulas and remedies
  - Zinc was reported as a topical therapy




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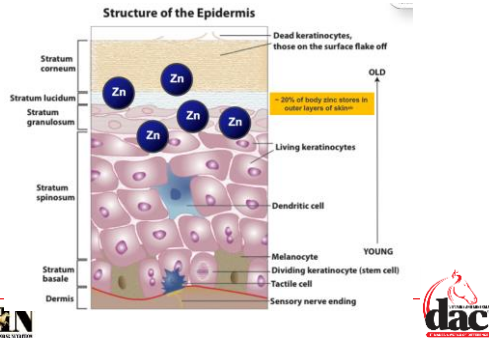
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## ZINC & SKIN




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## ZINC AND EPITHELIUM



- Zinc concentrations tend to be greater in tissues with high epithelial proliferation rates, suggesting zinc is involved in skin keratinization processes
- Highest zinc concentrations are in areas of pressure keratinization (footpads, hooves) and in parakeratotic sites (nose), and also the tongue
- Dermatological diseases associated with epidermal hyper-proliferation, such as zinc-responsive dermatosis, may greatly increase utilization of zinc stores




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## ROLE OF ZINC IN IMMUNE FUNCTION



- Wound healing, maintaining health and integrity of skin due to role in cellular repair and replacement
- Removing superoxide radicals
- Regulating immune system activities, including T-lymphocytes, CD4, natural killer cells, IL-2, IL-6, IL-8 and TNF $\alpha$
- Possesses antiviral activity
- Mild deficiency decreases lymphocyte proliferation and secretion of IL-2, increases IL-8 and TNF $\alpha$




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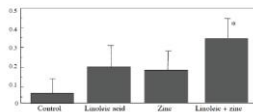
**ZINC AND LINOLEIC ACID SUPPLEMENTATION ON SKIN AND COAT OF DOGS**



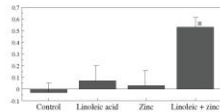
- Waltham Centre for Pet Nutrition study, Lincolnshire UK
  - 32 black Labrador retriever dogs 1 to 10.5 yr (median 1yr 6mo)
  - 9 wk pre-feed phase and 9 wk test phase
- Standard diet: 10 mg Zn, 1.85 g linoleic acid / 100 g diet
- Treatment: 32 mg Zn, 5.55 g linoleic acid / 100 g diet
  - Zn as capsule, Safflower oil (75.7% w/v linoleic acid) poured over the diet



**ZINC AND LINOLEIC ACID SUPPLEMENTATION ON SKIN AND COAT OF DOGS**



**Figure 1.** Change in score of coat gloss over the time course of the test phase. Gloss was visually assessed by a panel of five trained assessors (see text). Bars represent the numerical difference between the mean of duplicate observations at the end of the test phase and the end of the pre-feed stage. Values were analysed by one way ANOVA; \*indicates P = 0.05 when compared to control group.



**Figure 2.** Change in score of coat scale over the time course of the test phase. The presence of scale was visually assessed by a panel of five trained assessors (see text). Bars represent the numerical difference between the mean of duplicate observations at the end of the test phase and the end of the pre-feed stage. Note that a positive score indicates a reduction in the amount of scale present on the coat. Values were analysed by one way ANOVA; \*\*indicates P = 0.0007 when compared to control group.



BLUE FOX STUDY - CHINA

### Effect Of Zinpro Performance Minerals® On Arctic Blue Fox Fur Density

Group	Fur Density (hairs/cm²)
Control <sup>a</sup>	4877
40:40 <sup>b</sup>	5388 <sup>c</sup>
80 Av-Zn <sup>c</sup>	5936 <sup>c</sup>
40:40:40 <sup>d</sup>	5630 <sup>c</sup>


\* Control: 80 ppm Zn from ZnSO<sub>4</sub>  
<sup>a</sup> 40 ppm Zn from ZnSO<sub>4</sub> + 40 ppm Zn from Avail<sup>®</sup>FD zinc amino acid complex  
<sup>b</sup> 80 ppm Zn from Avail<sup>®</sup>FD  
<sup>c</sup> 40 ppm Zn from ZnSO<sub>4</sub> + 40 ppm Zn from Avail<sup>®</sup>Zn + 40 ppm Fe from Avail<sup>®</sup>Fe iron amino acid complex  
<sup>d</sup> 40 ppm Zn from Avail<sup>®</sup>FD + 40 ppm Fe from Avail<sup>®</sup>Fe iron amino acid complex  
<sup>e</sup> Means differ from Control (P < 0.001)

DRIVING GENERATIONAL PERFORMANCE


TRACE MINERALS FOR COMPANION ANIMALS

ZINPRO

### Effect Of ZINPRO<sup>®</sup>a Zinc Methionine Complex On Skin Integrity



Pre-Treatment



10 Weeks Later  
Lesion resolution dramatic with subsequent hair return

- Six year old German Shorthair
- Presented to a college of veterinary medicine
- Three to four year history of circumscribed plaques – previous therapeutic regimens unsuccessful
- Diagnosis: Non-specific
- ZINPRO provided 1.67 mg/kg body weight

CAD-22

DRIVING GENERATIONAL PERFORMANCE

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Questions?

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