Cobalt in Feed and Supplements

It is crucial for trainers to read the label of all products given to horses.

- It is worth remembering that a good-quality diet meets the horse's need for cobalt. The selection of supplements with low cobalt concentrations represents the safest strategy.
- Cobalt-containing substances such as sweet feed, Red Cell™ and vitamin B injections, when given according to manufacturer's instructions, have not been shown to increase cobalt concentrations above the threshold.
- There is risk that cobalt-containing products, particularly injectable formulations, can cause high cobalt concentrations. As there is no need to supplement with cobalt, avoiding these products may be prudent.
- Manufacturers may change product formulations; therefore, it is important to read labels at the time of purchase.
- Many products have not been evaluated to determine if they affect cobalt concentration in the horse. It is very important to read labels and discuss potential issues with your veterinarian.

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Other Information

Additional information can be found at:
rmtcnet.com

Published articles on cobalt in the horse:

Knych, H., et al., Pharmacokinetics and selected pharmacodynamics of cobalt following a single intravenous administration to horses, Drug Testing and Analysis, 2014 September 21, doi: 10.1002/dta.1737 [epub ahead of print].

Ho, E.N.M., et al., Controlling the misuse of cobalt in horses, Drug Testing and Analysis, 2014 August 17, doi: 10.1002/dta.1719 [epub ahead of print]

COBALT

What trainers should know
to comply
with cobalt regulations and
to ensure
horse health and welfare

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Cobalt Facts

Cobalt and Horses

- Cobalt is a trace mineral present in horse feed and vitamin/mineral supplements:
  - Vitamin B-12 (part of a normal vitamin jug or as a stand-alone injectable) contains cobalt
  - Injectable products such as Hemo-15™ and Vita-15™ contain cobalt
  - Oral vitamin and mineral supplements such as Red Cell™ and Farrier's Formula™ contain cobalt
- A horse's cobalt requirement is met by a normal diet – cobalt supplementation is unnecessary
- There has been no documented case of cobalt deficiency in the horse
- There is no equine disease for which cobalt is the indicated treatment

Cobalt and Horse Health

- Excessive cobalt administration can cause:
  - colic symptoms
  - muscle twitching
  - excessive sweating
  - general discomfort

The long-term health effects of excessive cobalt administration in horses are not known. In humans, chronic exposure to excessive cobalt has resulted in thyroid disease, heart muscle disorders and death.

Cobalt Research

Cobalt and Performance

Cobalt has been used in human medicine to increase red blood cell production. This effect has not been documented in the horse:

- A single 100 mg administration of cobalt chloride demonstrated no effect on red blood cell production in the horse
- Repeated administrations of 1.5 g of cobalt over a one month period demonstrated no effect on red blood cell production in the horse

Cobalt Threshold

- 1,203 horses (Standardbred, Quarter Horse and Thoroughbred race horses) were sampled to develop the threshold
- Average cobalt value from these horses was 3.8 nanograms per mL of plasma/serum
- Excessive cobalt administrations will result in concentrations in excess of 25 nanograms for weeks and possibly months

Cobalt Regulation

The RMTC has recommended a tiered penalty structure:

- For horses testing above 25 nanograms of cobalt per mL of serum/plasma, but below 50 nanograms of cobalt per mL of serum plasma:
  - First offense – trainer will receive a fine or a warning
  - Horse will remain on the Veterinarian's List until it tests below 25 nanograms/mL (this testing is performed at owner/trainer's expense)
- For horses testing above 50 nanograms of cobalt per mL of serum/plasma:
  - Class B penalty (RCI Model Rule for a first offense)

    -fine ($500-$1,000)

    -suspension (15-60 days)

    -loss of purse
  - Horse will remain on the Veterinarian's List until it tests below 25 nanograms/mL (This testing is at owner/trainer's expense)

Strengthening the Integrity of Racing

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