



---

401 W. MAIN ST · SUITE 222 · LEXINGTON, KY 40507 · PHONE: 859-759-4081 · WWW.RMTCNET.COM

---

## **EPO-Equine Bulletin**

The Racing Medication and Testing Consortium (RMTC) received a copy of an advertisement sent by a supplement company selling a product named EPO-Equine. The company claims that it increases red blood cell counts in the horse leading to improved performance.

EPO Equine is a feed supplement or nutraceutical. It is purported for use as a daily feed additive. According to the company website, it contains a number of vitamins, nutrients, and minerals. These are similar to ingredients found in health food supplements. The listed ingredients are:

- Ascorbic Acid (vitamin C)
- Niacinamide (vitamin B3 derivative)
- Pyridoxine HCl (vitamin B6)
- Folic Acid (vitamin B9)
- Cobalamin (likely vitamin B12)
- Iron (essential nutrient)
- Alpha-lipoic acid (anti-oxidant)
- Inositol (sugar)
- PABA (advertised to combat fatigue, irritability, depression and eczema in humans)
- Lutein (carotenoid – nutrient found in plants)
- Lycopene (an essential nutrient found in tomatoes – FDA allows claim for prevention of prostate cancer)
- Boron (essential nutrient)
- Nickel (trace mineral not considered an essential nutrient)
- Vanadium (trace mineral not considered an essential nutrient)
- Yellow Dock Extract (homeopathic antioxidant)
- Echinacea Augustifolia (homeopathic purported for immune system support, reduced pain and inflammation)
- Dandelion Extract (homeopathic that is purported to cause diuresis and improved digestion)
- Proprietary Endurance™ Complex including Choline Bitartrate (Choline bitartrate is similar to B vitamins)

Because nutraceuticals do not require ingredient lists, it is unclear whether anything else may be contained in this complex.

The advertisement also references a study out of the Equine Research Centre in Guelph, Canada.<sup>1</sup> That four horse study, which has never been repeated, reported that Echinacea caused an increase in red blood cell size and concentration. While the study may be accurate, it is difficult to tell if there was a true statistical difference based upon the analysis completed.

The statistical analysis in this paper is concerning because the authors used a paired t-test for all comparisons when the two-sample t-test would have been more appropriate. The use of the paired t-test results in an increased likelihood of detecting a significant finding. Furthermore, the researchers failed to adjust for the use of the t-test multiple times which also increases the likelihood of finding a significant difference when one does not exist. Therefore, one cannot determine whether there is a real difference or only an apparent but insignificant difference as a result of feeding Echinacea to these horses.

Furthermore, it is important to remember that what a manufacturer can say about nutritional products is not regulated by the FDA. Included in the advertisement are purported results from a non-existent laboratory and a testimonial from trainer Scott Lake. When ORI officers questioned Mr. Lake about his involvement in this advertisement his response was that he essentially allowed a friend to use his name on the advertisement and he did not believe that using EPO-Equine altered the performance of his race horses.

In all likelihood, EPO-Equine would only stimulate blood production if a horse was deficient in any of these vitamins and minerals and those vitamins or minerals are needed for hemoglobin production. This is unlikely with our exceptionally well- fed race horses.

The use of nutraceuticals, however, is an area of concern. Control over the production of nutritional products simply does not match that of pharmaceutical production. Ingredients are not consistent and sources for ingredients are not strictly regulated. Because of this inconsistency, trainers can incur positives for these products even when a product has been used for years and had previously been tested for prohibited drugs.

If you have any additional information regarding this substance, please do not hesitate to contact the RMTC at [contactus@rmtcnet.com](mailto:contactus@rmtcnet.com). Thank you.

---

<sup>1</sup> O'Neill, W., *Immunological and haematologic consequences of feeding a standardized Echinacea (Echinacea angustifolia) extract to healthy horses*, Equine vet. J., 34(3) 222-27 (2002).