Thyro-L®
(levothyroxine sodium powder), USP

WHY TRUST THE PIONEER?

Levothyroxine for horses was introduced by LLOYD in 1965 as iodinated casein powder, Thyrone®, and was replaced with Thyro-L® in 1996. LLOYD developed the Levothyroxine Sodium Powder specification monograph for USP. It is the only (levothyroxine) USP powder available for horses.

HOW DOES THYRO-L® SET A HIGHER STANDARD - FOR LEVOTHYROXINE SODIUM POWDER FOR HORSES?

Only Thyro-L® meets the higher powder, USP standard for an oral pharmaceutical powder and can make this claim on the front mast of its label. Check the label of any other T4 powder product. You will see that it only contains Levothyroxine Sodium USP as a listed ingredient [Levothyroxine Sodium USP (0.22%)], which simply indicates a type of raw material.

Meeting the higher powder, USP standard is more difficult for a pharmaceutical blend to achieve. However, it is important because this higher USP standard provides more assurance that the accuracy of the T4 dose (scoop) is consistent for the horse each time it is administered.
IN PRACTICE
Thyro-L in the Medical Management of Insulin Resistant Obesity
Equine obesity has become a significant health concern primarily because of its association with Insulin Resistance (IR) and laminitis. Chronic IR results from the body’s inability to respond to insulin, which subsequently diminishes effective glucose utilization. IR is believed to influence laminitis through mechanisms of distal vasoconstriction, exaggerated inflammatory response, platelet stimulation, and reduced capillary recruitment. It is these effects that are thought to interfere with the body’s ability to supply glucose to the hooves. Obesity further exacerbates this condition through the lipotoxic effects of elevated free fatty acids (FFA) and the pro-inflammatory state created as monocytes migrate into adipose tissues. The increased force placed on dermo-epidermal attachments in the hoof of these animals is also likely to influence the development of laminitis.
Insulin resistance is a primary component of Equine Metabolic Syndrome (EMS), also characterized by regional adiposity, hypertriglyceridemia, hyperleptinemia, and increased laminitis risk. Effective management of obese IR and EMS horses is focused on feeding a low non-structural carbohydrate grass hay. Use of IR-specific supplements like Target IR™, are a common approach to counteract the risk of vitamin and mineral deficiencies with a restricted, grass-hay only diet. Incorporation of a consistent exercise regimen and elimination of pasture grazing are also key components in managing insulin resistance.
When management practices fail to reduce body mass, short term medical therapy may be indicated. According to work performed by Nicholas Frank, DVM, PhD, ACVIM, and others at the University of Tennessee College of Veterinary Medicine and elsewhere, Thyro-L can be used to accelerate weight loss and improve insulin sensitivity. A greater than twofold increase in mean insulin sensitivity was detected, with coinciding body weight reduction, when levothyroxine sodium was administered to healthy mares at dosages ranging from 24-96 mg/day over 8 weeks.

Research Findings
Thyro-L can be administered to horses with IR/EMS to accelerate weight loss and improve insulin sensitivity. A greater than twofold increase in mean insulin sensitivity was detected, with coinciding body weight reduction, when levothyroxine sodium was administered to healthy mares at dosages ranging from 24-96 mg/day over 8 weeks.

Administration
Thyro-L can be administered by mouth or in the feed at a dosage of 48 mg (4 tsp) per day for 3-6 months to induce weight loss. Smaller ponies and Miniature horses can receive 24 mg/day for the same time period. Treated horses should be weaned from Thyro-L once ideal weight has been attained by reducing the dosage to 24 mg (2 tsp) for 1 week, followed by 12 mg (1 tsp) per day for an additional 2 weeks.

REFERENCES

Product Name  Product Number
Thyro-L® 0481
1 lb bottle
Thyro-L® 0482
10 lb pail

Manufactured by
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