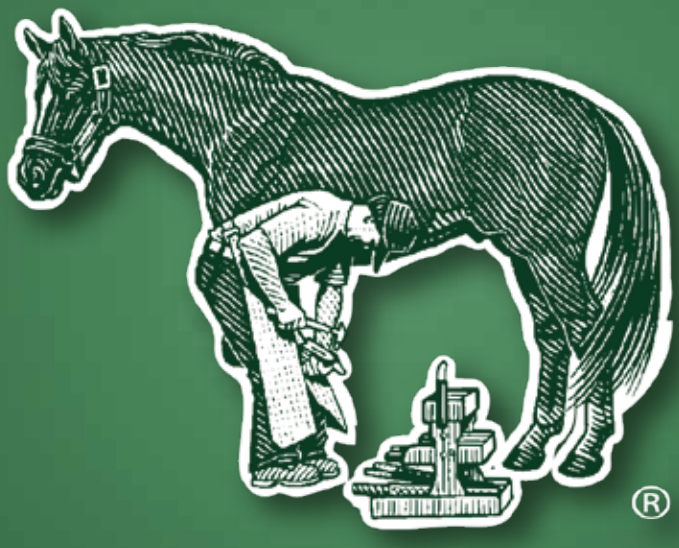
Life Data®
LABS, INC.



ANIMAL NUTRITION & HEALTH CARE

• PRODUCT BROCHURE •

www.lifedatalabs.co.uk

THE DEVELOPMENT OF FARRIER'S FORMULA®

When Dr. Frank Gravlee began his research, equine nutrition was poorly understood and not recognized as an important factor in healthy hoof growth. Even though today it is widely accepted that proper nutrition is absolutely essential for good health, only in recent years have others recognized the importance of nutrition to the growth and quality of a healthy hoof. "Feeding the hoof", or providing for healthy hoof growth through proper nutrition, was an unheard of concept. Consequently, there was no supplement product available to supply the necessary nutrients for hoof growth. In fact, there was very little research on nutritional factors in horses at all and virtually none on those affecting the hoof.

In 1973, Dr. Gravlee founded Life Data Labs, Inc. with the purpose of studying the nutrient requirements of horses. He set out to determine the requirements through laboratory testing of over one hundred horses' blood and feed. Dr. Gravlee performed extensive lab tests and developed dietary feeds and supplements for individual horses to correct the deficiencies found. Then, he re-tested at intervals to determine the exact nutrients and the amounts needed for each animal. During this initial process, it quickly became clear to Dr. Gravlee that he could correct many severe problems through supplementation.

In Dr. Gravlee's twenty years of veterinary practice, one of the most debilitating problems he saw in horses was hoof problems. He began to focus on the hoof and to look for exactly which nutrients were needed for healthy hooves.

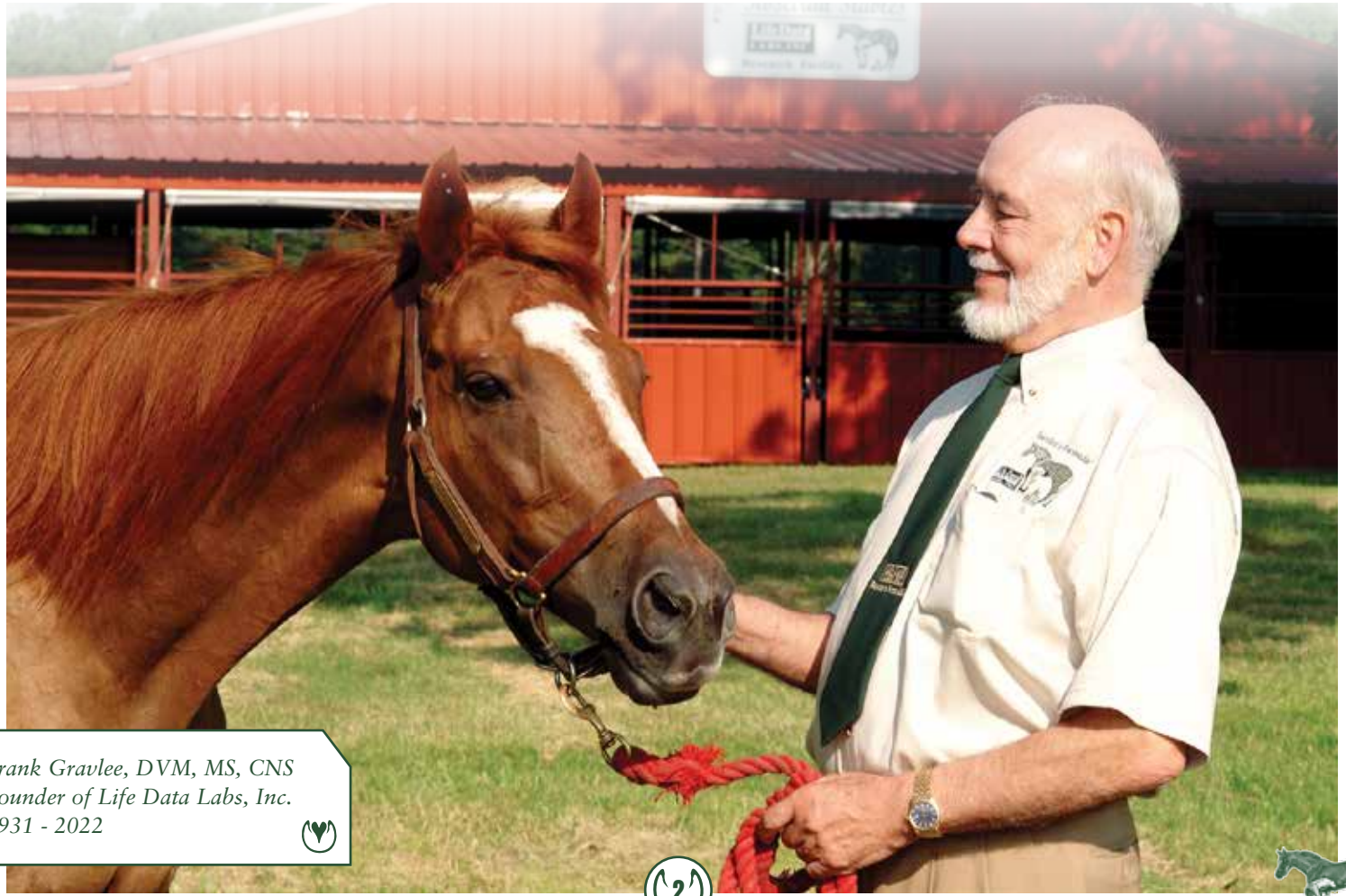
The dermis is the largest glandular organ in the body and the first to display signs of poor nutrition. Improvements in the health of dermal tissues are quickly visible through stronger, healthier hoof growth and shinier, healthier hair and coat. With this idea in mind, Dr. Gravlee went to his data bank and began analysing data on over one-hundred horses for more than one-hundred seventy-five different factors. This enabled him to determine through statistical analysis which nutrients were out of balance in horses with poor hoof quality. Of the horses tested, all horses with poor quality hooves were deficient in two or more of the nutrients that he had identified as being important to dermal health. This information ultimately led to the development of Farrier's Formula®.

Dr. Gravlee's studies showed that no single nutrient is the key to a healthy hoof. All of the correct nutrients in the proper balance must be present. This allows the horse's liver and hoof corium to assemble the highly cross-linked connective tissue proteins needed for a denser and better organized hoof wall that will resist micro-organisms, cracking and drying. Farrier's Formula® contains the supplementary nutrients the horse needs, in the proper balance, to build and maintain a healthy dermis including the hoof.

Reviews of existing literature of research relating to individual nutrients continues to be the base for many manufacturers claims of 'scientific research'. Due to the fact that nutrient interaction is of critical importance, products containing multiple, compounded nutrients must be tested in its final form, validated by independent sources and ideally, published in referred scientific journals. Farrier's Formula® is the only product of its kind that meets these standards.

"Hey Doc, how often do I rub those little green pellets on my horse's hooves?"

Dr. Frank Gravlee answered that question many times in the early '80s when Farrier's Formula® was first introduced. "Feeding the hoof" was a totally new concept.



Frank Gravlee, DVM, MS, CNS
Founder of Life Data Labs, Inc.
1931 - 2022

Farrier's Formula®

THE ORIGINAL HOOF SUPPLEMENT

Over 30 years of equine nutritional research, clinical trials and field testing have gone into every cup of Farrier's Formula®. While no single nutrient is the key to a healthy hoof, studies show that most horses respond to better overall nutrition. Farrier's Formula® provides nutrients such as phospholipids, omega fatty acids, and important amino acid "protein building blocks" that enable horses to build strong structural and connective tissue proteins important for healthy hoof structure and growth. Within weeks of feeding Farrier's Formula® you will notice a glossy more deeply coloured coat, and an emerging new band of healthy hoof growth. Internal benefits are harder to see, but just as dramatic.

Available in 5 kg vacuum bag. ***The 5 kg foil bag is nitrogen flushed and vacuum sealed to preserve nutrient potency.***

For further information about nutrients contained in Farrier's Formula®, please refer to our website:
www.lifedatalabs.co.uk.

Farrier's Formula® is doping free, low in iron, and can be fed to competition horses.

COMPLIMENTARY FEED

Analytical Constituents:

Crude Protein	25 %
Crude Fibre	21 %
Crude Oils and Fat	12 %
Ash	11 %
Ash insoluble in HCl	2.7 %
Sodium	0.25 %

Composition:

Alfalfa meal
Soy protein concentrate
Yeast

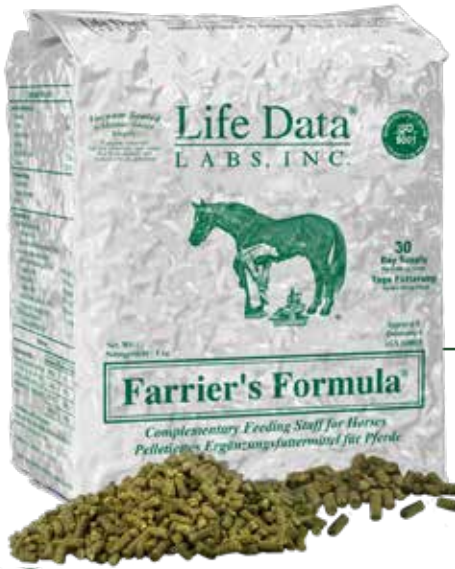
Additives:

Technological additives:

Lecithin (1c322)
Silicon dioxide (E551a)

Nutritional additives:

DL-Methionine, technically pure (3c301)	32,000	mg/kg
Vitamin C (3a300)	7,000	mg/kg
Biotin (3a880)	118	mg/kg
Zinc as Zinc oxide (3b603)	1,500	mg/kg
Copper as Copper (ll) sulfate, Pentahydrate (3b405)	650	mg/kg
Iodine as Calcium iodate, anhydrous (3B202)	7	mg/kg



30-Day Approximate Supply for a 450 kg Horse.

FEEDING INSTRUCTIONS:

Adult Horses: Can be fed alone or mixed with the regular feed. Use 170 g of product per day for each 450 kg of body weight.

Weanling to Adult: Feed the level corresponding to the predicted adult weight from the chart.

Nursing Foals: Feed 43 g per day.

Body Weight	Grams Per Day
225 kg	85 g
450 kg	170 g
675 kg	255 g
900 kg	340 g

Farrier's Formula® *Double Concentrate*

THE #1 FARRIER RECOMMENDED HOOF SUPPLEMENT

Farrier's Formula® *Double Concentrate* promotes hoof growth, strength and quality. Farrier's Formula® *Double Concentrate* also helps develop a healthier hair coat, mane and tail. It provides nutrients such as phospholipids, omega fatty acids, vitamins, minerals, and important amino acid "protein building blocks" for a healthy hoof and hair coat. Feeding the product supports strong and fast growth of the hoof wall, sole, frog, and heel while also leading to a glossy and more deeply coloured coat. These nutrients are provided at twice the concentration compared to original Farrier's Formula®.

Available in 5 kg vacuum bag. ***The 5 kg foil bag is nitrogen flushed and vacuum sealed to preserve nutrient potency.***

For further information about nutrients contained in Farrier's Formula® D*ouble Concentrate*, please refer to our website:
www.lifedatalabs.co.uk.

Farrier's Formula® Double Concentrate is doping free, low in iron, and can be fed to competition horses.

COMPLIMENTARY FEED

Analytical Constituents:

Crude Protein	30 %
Crude Fibre	11 %
Crude Oils and Fat	20 %
Ash	12 %
Ash insoluble in HCl	2.4 %
Sodium	0.53 %

Composition:

Alfalfa meal
Soy protein concentrate
Yeast

Additives:

Technological additives:
Lecithin (1c322)
Silicon dioxide (E551a)

Nutritional additives:

DL-Methionine, technically pure (3c301)	65,000 mg/kg
Biotin (3a880)	236 mg/kg
Vitamin C (3a300)	8,000 mg/kg
Zinc as Zinc oxide (3b603)	3,000 mg/kg
Copper as Copper (ll) sulfate, Pentahydrate (3b405)	1,200 mg/kg
Iodine as Calcium iodate, anhydrous (3b202)	9 mg/kg

FEEDING INSTRUCTIONS:

Adult Horses: Can be fed alone or mixed with the regular feed. Use 85 g of product per day for each 450 kg of body weight.

Weanling to Adult: Feed the level corresponding to the predicted adult weight from the chart.

Nursing Foals: Feed 22 g per day.

Body Weight	Grams Per Day
225 kg	43 g
450 kg	85 g
675 kg	128 g
900 kg	170 g

60-Day Approximate Supply for a 450 kg Horse.

FARRIER'S FORMULA®
INDEPENDENT UNIVERSITY RESEARCH

The Edinburgh Project 1988 was conducted by Dr. Sue Kempson BSc. PhD at the Department of Preclinical Veterinary Sciences, University of Edinburgh (copies of the full paper are available on request). In the study, Farrier's Formula® was fed to a group of horses who had been referred to Dr. Kempson with a history of thin, crumbly hoof horn and frequent loss of shoes.

These were divided into two categories: Group 1 presented horn which crumbled around the nail holes, and had sand cracks which extended from the coronary band to the ground surface. Group 2 had slow horn growth and suffered frequent bruising and lameness, with the inability to retain shoes. Indeed, one horse was so sensitive it had not been able to wear shoes for twelve months, and was only sound on soft ground.

The results were remarkable: "All the horses showed improvement with increased horn growth."

Within 6-12 weeks, all the horses retained their shoes for a longer period of time. In the Group 1 horses, the farriers commented on the increased strength of the wall. By 6-7 months the sand cracks had grown out, and the frequent loss of shoes had ceased. With the Group 2 horses, a growth ring was visible at the coronary band within 8 weeks showing the start of supplementation. Astonishingly a bulge appeared below this ring at around 5 months where the horn below was of a looser structure. Although this bulge had grown out by 7-8 months, it clearly showed how much more cohesive the new horn was.

Hoof clippings were taken from the horses at routine farriery attention, and examined in a scanning electron microscope. In Figure 1 you can see that the initial structure was very random in its organization whereas in Figure 2 each "tubule" with its well-defined core give the hoof wall far greater strength and resilience.

Figure 3 shows the white line, where the hoof wall joins the sole, and the random structure cracks and holes can be seen. In Figure 4 the same area after 6-8 months clearly shows well-formed finger-like "laminae", and demonstrates why correct nutrition is so crucially important to the well being of the laminitic. In fact Farrier's Formula® is frequently used to promote healthy new growth after hoof wall resection operations.

Figure 1:
At the start of the study the loose arrangement of the keratin cells of the hoof wall were conspicuous.

Figure 2:
After 6-8 months the cells were more closely attached to one another, showing well defined "tubule" whirls.

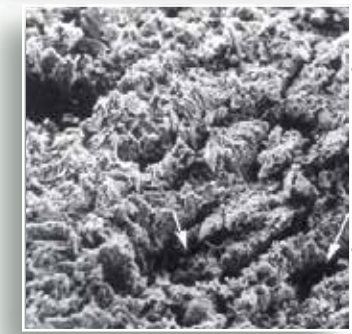


Figure 3:
The cells of the white line showing no organized structure, and several cracks and holes.

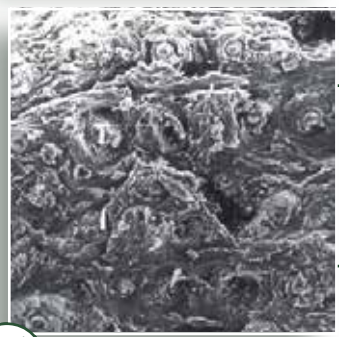


Figure 4:
An organized structure with the "fingers" of the laminar bond between the soft tissue and hoof wall.

FEEDING THE HOOF

The role of biotin in a hoof supplement:

A biotin deficiency is rare in the horse. Hindgut microbes normally manufacture sufficient biotin to meet the horse's daily requirement. In the few cases of biotin deficiency that do occur, other dietary deficiencies usually accompany the biotin deficiency. Hooves are more likely to benefit from a hoof supplement containing a balance of nutrients including amino acids, vitamins, minerals, fatty acids and phospholipids. The goal of a hoof supplement is to provide nutrients important for connective tissue formation that may be deficient in the horse's diet, while at the same time preventing over-supplementation of any nutrients that may interfere with other nutrients.

There is little margin for error when supplementing selenium:

A horse's daily requirement for selenium is only a few milligrams less than the level of selenium that creates chronic selenium toxicity. A lack of copper in the diet increases the risk of selenium toxicity. There is no evidence or research that selenium deficiency affects hoof structure. However, selenium excess and chronic selenium toxicities are well documented in the development of lameness, hoof defects, and poor hoof wall structure.

Too much sulphur in the diet can be detrimental to hoof quality:

Sulphur is an important nutrient for connective tissue strength and joint health. Farrier's Formula® contains the ingredient methionine (a sulphur containing amino acid) which supplies the correct amount of sulphur for joint and hoof health. Joint supplements often contain MSM, an ingredient that contains sulphur, which can lead to over supplementation of sulphur when combined with other products.

Bran should not be fed to horses with poor hoof quality:

Bran and other grain byproducts contain phytates. Phytates are high in phosphorus, and can block the absorption of calcium and other minerals in the small intestine. Diets high in bran and other grain byproducts can create the low calcium levels that are detrimental to hoof condition. Published scientific research

Pelleted supplements are more palatable and yield less waste than powdered supplements.

(Kempson BSc, PhD 1987) demonstrated the ultra structural changes to the hoof wall caused by calcium deficiency related to the feeding of bran to the adult horse.

Other factors to consider:

Nutrition is one of the many factors that affects hoof quality. The environment, genetics, hoof balance, mechanics, and other factors all contribute to overall hoof health. Despite everything we do nutritionally, if these other factors are not managed, hoof quality will continue to suffer. All factors must be properly managed to obtain the best hoof possible. To improve hoof quality, we recommend:

- Feeding a balanced diet
- Supplementing with Farrier's Formula®
- Maintaining a regular farrier schedule
- Regular applications of Farrier's Finish® and Life Data® Hoof Clay
- Keeping clean stalls and a dry environment
- Picking and cleaning the hoof daily

Farrier's Finish®

Non-Caustic Topicals

Life Data® Hoof Clay

FOR WET & DRY CONDITIONS

Farrier's Finish® is a liquid hoof dressing that protects against excessively wet or dry conditions. Its non-caustic formulation helps maintain healthy hooves while supporting hoof wall elasticity. The ingredients iodine and tea tree oil give the product additional unique properties to provide protection for the hoof wall and sole.

Unlike other hoof care products, Farrier's Finish® does not utilize harmful tar, petroleums, or harsh chemicals.

Available in a 473 ml bottle.

For further information please refer to our website:
www.lifedatalabs.co.uk.

APPLICATION INSTRUCTIONS:

Shake well before use. Hoof should be clean and dry before application.

For External Hoof Maintenance: Apply daily to entire hoof (coronary band, wall, sole, and frog). Special attention should be given to the white line area at the junction of the sole and the hoof wall, and any cracks, crevices, or nail holes. Allow to penetrate for several minutes. Apply each time the hoof is dressed, rasped or trimmed.

To Protect Hooves from the Environment: Apply daily, every other day, or twice per week depending on severity of wet or dry environmental conditions.

***To Maintain Healthy Hooves*:** Apply twice per week when environmental conditions are not excessively wet or dry.

INGREDIENTS:

Grain extract, Amino Acids, Propane-1,2-diol, Tea Tree oil, Propan-2-ol, Iodine, Yucca Extract

Protects new hoof growth from environmental factors.

PACKING FOR HOOF DEFECTS

Life Data® Hoof Clay is a non-caustic sticky clay that easily packs into hoof defects and stays in place for extended periods of time. The ingredients iodine and tea tree oil give the product unique properties to provide protection from challenges such as wet conditions and other environmental factors detrimental to the hoof. Mud, faeces, debris and microbes can invade old nail holes, hoof wall cracks, white line separations and other areas of the hoof capsule such as the sulci of the frog.

Life Data® Hoof Clay can be used on shod and barefoot horses, and can be used routinely to maintain healthy hooves.

Available in a 283 gram wide mouth jar.

For further information please refer to our website:
www.lifedatalabs.co.uk.

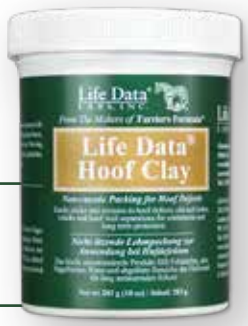
APPLICATION INSTRUCTIONS:

Hoof should be dry and clean before application. Use fingers or a small spatula to press Life Data® Hoof Clay into white line separations, crumbling hoof horn, hoof cracks, and old nail holes. Apply directly to white line area at each shoe reset. Driving the nails through the Hoof Clay helps protect the new nail holes. As a general guideline, apply twice per week in wet conditions and once per week in dry conditions.

Non-irritating and is safe to apply without wearing gloves.

INGREDIENTS:

Silicon Dioxide; Grain Extract; Iodine; Tea Tree Oil; Yucca Extract



For extra protection, apply Farrier's Finish® after applying Life Data® Hoof Clay.

INDEPENDENT UNIVERSITY RESEARCH

USE OF A TOPICAL DISINFECTANT AS PART OF A HOOF CARE PROGRAMME FOR HORSES WITH DISEASES OF THE HOOF CAPSULE.

Veterinary Record (2004)
154, 647-652

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Department of Preclinical
Veterinary Sciences,
Royal (Dick) School of Veterinary Studies,
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EH9 1QH

R. Robb, AWCF,
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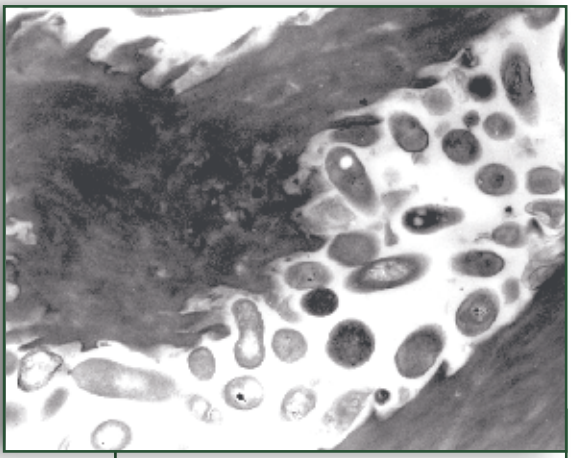
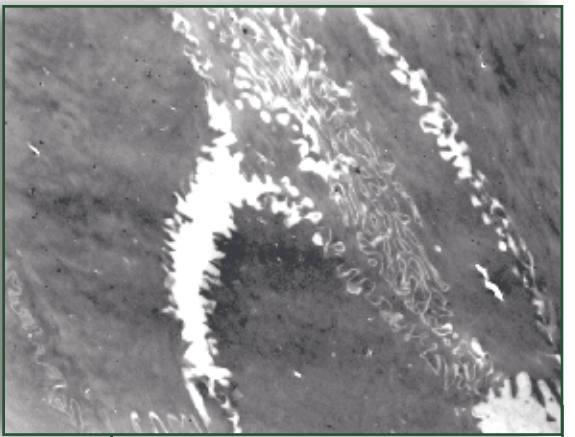
EH22 4EB

SUMMARY

Twenty-three horses with persistent hoof horn defects were treated topically with a hoof disinfectant as part of a hoof care program for a year. The active ingredients of the disinfectant were a poloxamer-iodine complex, ethylenediamine dihydriodide, isopropyl alcohol and propylene glycol. Hoof trimmings were taken at the start of the study and every six weeks, and examined by scanning and transmission electron microscopy. At the beginning of the study all the horn samples contained large numbers of bacteria, and samples from eight of the horses also had fungal hyphae intermingled with the bacteria. After the application of the hoof disinfectant and adjustments to their diet, there were rapid improvements in the gross appearance of the feet of all the horses; some of them improved within two to three weeks and by 12 weeks the horn quality of all the horses had greatly improved.



Infected hoof wall before treatment



Six weeks after treatment, there are no bacteria in the intercellular spaces

Life Data® Compose® 2x

CALMING SUPPLEMENT FOR HORSES

Compose® 2x is a pelleted concentrated calming supplement for horses prone to anxiety or excitability in stressful situations. Because Compose® 2x does not contain substances or ingredients that lead to sedation or loss of alertness, it is an alternative to the utilisation of tranquillizers. Compose® 2x contains nutrients such as tryptophan, thiamine, and magnesium that help calm the horse while keeping him alert and responsive. Compose® 2x does not contain drugs – only nutrients.

Visit lifedatalabs.com for product labelling and ingredients.

Available in 2 kg bags.

DIRECTIONS FOR USE

For Use Prior to Activities: Feed 2 scoops (85 grams) per 450 kg body weight on an empty stomach. After feeding Compose® 2x allow 1 to 3 hours prior to activities such as loading, hauling, training, showing, new environment, grooming, health maintenance or similar procedures.

Long Term Maintenance: Feed as a top dressing once per day. Feed two scoops (85 grams or 119 ml) per 450 kg body weight once per day.

Horses in Competition: L-Tryptophan is a prohibited substance in certain competitions. The event sanctioning body can provide the status of L-Tryptophan and, if prohibited, the necessary withdrawal time.

Alternative to Tranquillizers.

Life Data® Breeder's Formula®

SKIN AND COAT SUPPLEMENT FOR DOGS

Breeder's Formula® is a concentrated nutritional supplement formulated by veterinary nutritionists to support healthy skin and reduce nervous behaviour in dogs. It also supports a bright glossy hair coat. This product is safe and effective for all breeds and ages, including pregnant dogs.

Visit lifedatalabs.com for product labelling and ingredients.

Available in 0.5 kg bags.

FEEDING INSTRUCTIONS

Sprinkle over food using the enclosed scoop. Add the recommended amount per day according to the dog's weight. One scoop (1 teaspoon or 5 ml) is equivalent to 3.2 grams of product.

Body Weight	Scoops per day	Supply per 0.5 kg bag
Up to 2 kg	1/2 scoop (1.6 grams)	313 days
2.1 - 6.4 kg	1 scoop (3.2 grams)	155 days
6.5 - 13 kg	2 scoops (6.4 grams)	78 days
13.1 - 22.5 kg	3 scoops (9.6 grams)	52 days
22.6 - 36 kg	4 scoops (12.8 grams)	39 days
36.1 - 49.9 kg	5 scoops (16 grams)	31 days
Over 50 kg	6 scoops (19.2 grams)	26 days

Positive Changes Within the First Month.

LIFE DATA® TESTIMONIALS

Visit www.lifedatalabs.co.uk for More Testimonials!

EMMY B. - FARRIER'S FORMULA®

"I am absolutely blown away by how amazing this supplement is! My mare suffered an awful hoof injury where she sliced through her hoof wall and sole almost to the coffin bone. I got her on **Farrier's Formula®** almost immediately to help grow out her hoof faster. 15 weeks and 4 corrective trim cycles later, and her hoof has grown SO much that she's done with shoes!"

SUSAN L. - FARRIER'S FINISH®

"After using **Farrier's Finish** each day, in a very short time, the flaking was gone as well as the crack. The colour of the hoof is healthy and looks nourished. I cannot rave enough about Farrier's Finish and the staff at Life Data Labs for educating me on the care of my horse's hooves."

KRISTI M. - LIFE DATA® HOOF CLAY

"We were very impressed with how the **Hoof Clay** stayed intact. Wheeler was wearing a boot on his hoof. After a lot of rain, we took the boot off and applied the Hoof Clay. We left the boot off for three days. On the third day, we could still smell the Hoof Clay on the bottom of his hoof."

BARBARA B. - BREEDER'S FORMULA®

"Why had I not thought of it sooner? Life Data makes a dog formula, **Breeder's Formula**, as well! What an amazing transformation!!! It only took a little over a month and a half to go from the angry, very irritated leg to the almost perfect, completely covered-in hair leg! We couldn't believe how quickly the improvements started to appear. You could actually tell the difference in a week's time, and Josie feels so much better. Her coat shines like never before!"

Life Data Labs, Inc.

A Dedicated Animal Nutrition Research and Manufacturing Company

Life Data Labs, Inc. was founded by Frank Gravlee, DVM, MS, CNS with the purpose of determining equine nutritional deficiencies by performing laboratory tests. Dr. Gravlee graduated from Auburn University School of Veterinary Medicine and practiced veterinary medicine before attending graduate school at MIT. During a three year residency in nutritional pathology, he received a master's degree in nutritional biochemistry and intermediary metabolism.

Farrier's Formula®, Dr. Gravlee's first commercial product, has been a household name in the equine world for over three decades. Farrier's Formula® is the recognized gold standard in hoof supplements. Marketed worldwide, approximately one-third of sales are international.

Life Data Labs, Inc. automated manufacturing facility, equine nutrition research facility, and the state of the art laboratory provides the tools and research needed to continually develop new products for the animal health and nutrition market. In addition, Life Data® is an ISO 9001 certified company. ISO (International Organization for Standardization) was established in 1947 and is headquartered in Geneva, Switzerland. The ISO organization promotes the development of standardization and related world activities to facilitate the international exchange of goods and services. This kind of certification is recognized worldwide as a mark of excellence. Life Data Labs, Inc. is one of the first feed supplement manufacturers of its kind to attain the certification and joins only 10 percent of U.S. manufacturing operations that have registered their Quality Management System to ISO 9001.

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