



VITAHIVE™

S C I E N C E B A S E D N U T R I T I O N

VitaHive Power Feed Information Pack

W W W . V I T A H I V E . C O . N Z



VITAHIVE™

SCIENCE BASED NUTRITION

POWER FEED™

VitaHive Power Feed is a powerful pollen supplement that not only delivers optimal nutrition to your hive but also significantly boosts brood, bee health and longevity.

The development of **Power Feed** wasn't something that happened overnight. For more than a year we reviewed, researched, tested, trialed and toiled over hundreds of ingredients. The result? The ultimate in bee nutrition; a highly effective, complete, protein-based pollen supplement that provides substantial health and

Power Feed contains a unique, highly researched and specially blended mix of pH balanced proteins, fats, vitamins and minerals to provide your hives with the nutrition they need to thrive (plus they love the taste!). More importantly **Power Feed** is GMO free and does not contain any soy or animal products.

VitaHive Power Feed is the perfect feed during times of low pollen availability or high energy demand. Feeding in autumn and spring can boost hive health; reduce winter losses and prime hives for the coming season. **Power Feed** is available in both ready to mix powder and pre-made ready-to-go patties.



**COMPLETE
PROTEIN PROFILE**



**IMPROVES
HEALTH**



**BOOSTS COLONY
STRENGTH**



**MADE IN
NEW ZEALAND**



**NO ANIMAL
PRODUCTS**

Boosts Bee Health, Longevity & Colony Strength

For improved pollination and higher honey yields

Advanced Milling Techniques

Delivers significantly smaller particle sizes than traditional bee feed products, resulting in improved bioavailability and nutrition

GMO and Animal Product Free

Power Feed is free from genetically modified organisms (GMO free) and does not contain soy (which have been proven to slow insect growth) or animal products

Science Based Nutrition

Highly researched, highly beneficial and carefully blended ingredients deliver powerful nutritional benefits to your hive



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Power Feed Product Summary

- ✓ Balanced amino acid profile and plant based proteins
- ✓ Advanced milling techniques deliver significantly smaller particle sizes than traditional bee feed products* resulting in improved bio-availability and nutrition
- ✓ pH balanced for preservation and bee palatability
- ✓ GMO free
- ✓ Free from soy and indigestible sugars
- ✓ NZ made and manufactured
- ✓ Rigorous quality control using accredited NZ laboratories
- ✓ Excellent uptake in feeding trials

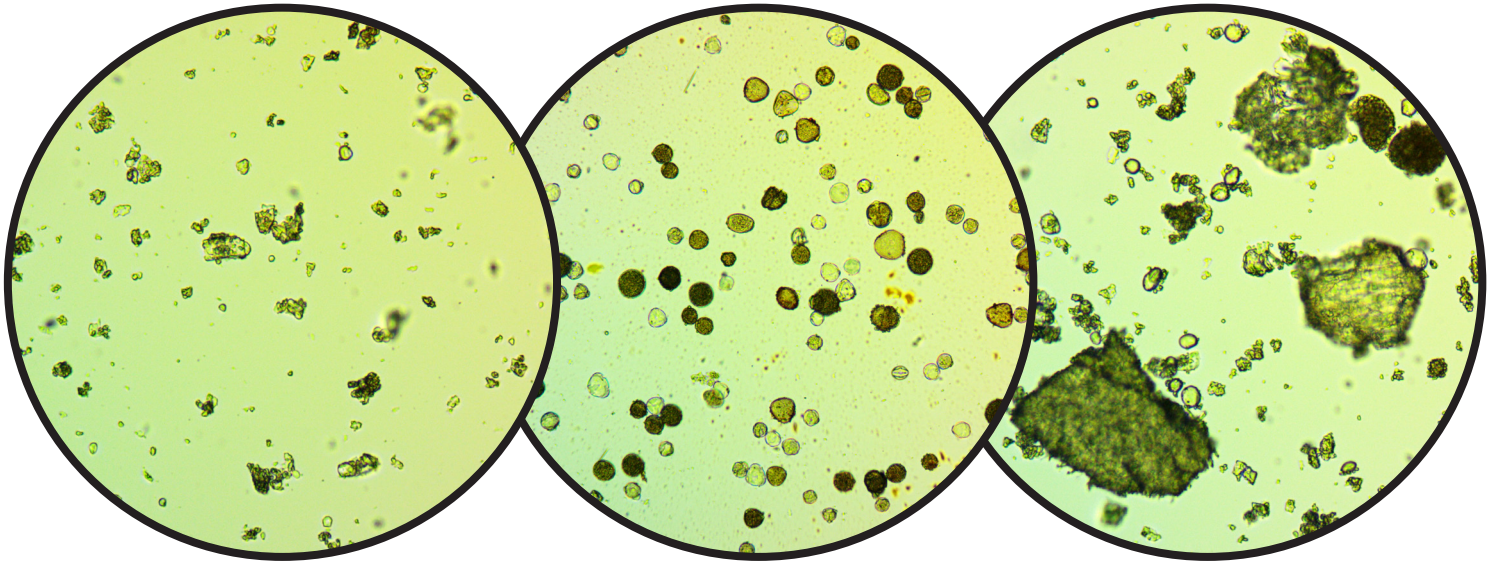
* 85% of particles measured less than 108 microns

VitaHive Power Feed Nutritional Information

	Power Feed Powder*
Protein	37%
Fat	3.5%
pH	3.5
Ash	3.5%
Mesh size	85% LT** 108 Micron
Moisture	7.5%

Power Feed™

Particle Size Study



Power Feed™
100x magnification

Pollen
100x magnification

**Market Leading
Pollen Supplement**
100x magnification

The Importance of Pollen and Particle Size

Pollen is always the preferred source of nutrition for bees. However, when natural sources of pollen are low or of poor quality, pollen supplementation can be beneficial to the health and vitality of the hive.

Natural pollen is made up of very fine particles that have a large surface area to volume ratio. This allows bees to easily breakdown and digest the particles to gain access to vital nutrients.

VitaHive Power Feed™ has been carefully formulated to replicate natural pollen particle size. By using a crystalline structure, surface area has been increased even further. This allows bees to ingest and absorb nutrients more readily.

When developing **Power Feed™**, it was important to design a formula where particles did not aggregate to form large clumps. These larger, aggregated particles often seen in competing products reduce the overall surface area and hinder the bee's ability to absorb vital nutrients which can result in inhibited growth and malnourishment.



VITAHIVE™

SCIENCE BASED NUTRITION

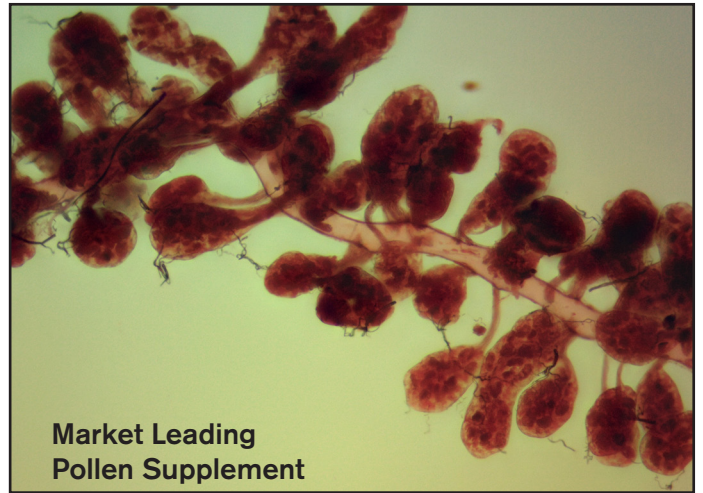
View more research online at www.vitahive.co.nz

Power Feed™

Hypopharyngeal Gland Development Study



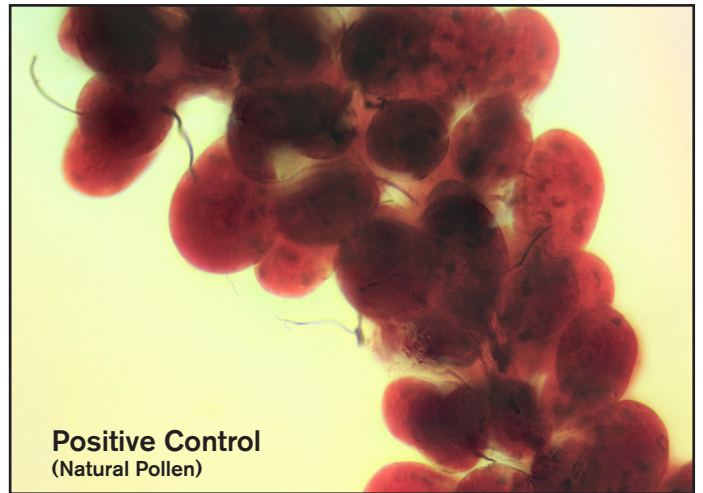
Power Feed™



Market Leading
Pollen Supplement



Negative Control
(Sugar Syrup)



Positive Control
(Natural Pollen)

The Hypopharyngeal Gland and its Importance

The HPG (hypopharyngeal gland) is positioned inside the head of all bees. It produces and secretes royal jelly which is then feed to larvae as their sole source of nutrition. The development of the gland is crucial for successful hive growth and brood rearing. The gland is a long string like tubule which terminates at the mouth of the bees. The ducts length is covered with balls called ancini. Well-developed ancini are plump and round and secrete large volumes of royal jelly. The extent of the hypopharyngeal gland is determined by the quality of the diet that the bee feeds on such as pollen quality. The HPG becomes fully developed during the nursing stage of a bee's life. This typically lasts less than 2 weeks and maximum development is at around day 8. The size then reduces as they move into foraging roles within the hive. Tests showing inflated or overly long development periods are unrealistic and not representative of bee physiology within a beehive.

The Study

We wanted to understand how **VitaHive™ Power Feed™** influenced HPG development against other leading pollen supplements and natural pollen sources. Our study lasted over the typical development period of the gland, ensuring the results showed an accurate representation of its developmental. This is important as research studies showing an extended or overly long development periods are unrealistic and not representative of bee physiology within a beehive.

The Result

After examining the Hypopharyngeal Gland of the bees in our study, **VitaHive™ Power Feed™** was observed to be the best supplementary source of protein to feed a hive. The ancini are noticeably larger, more plump and will therefore produce more royal jelly.

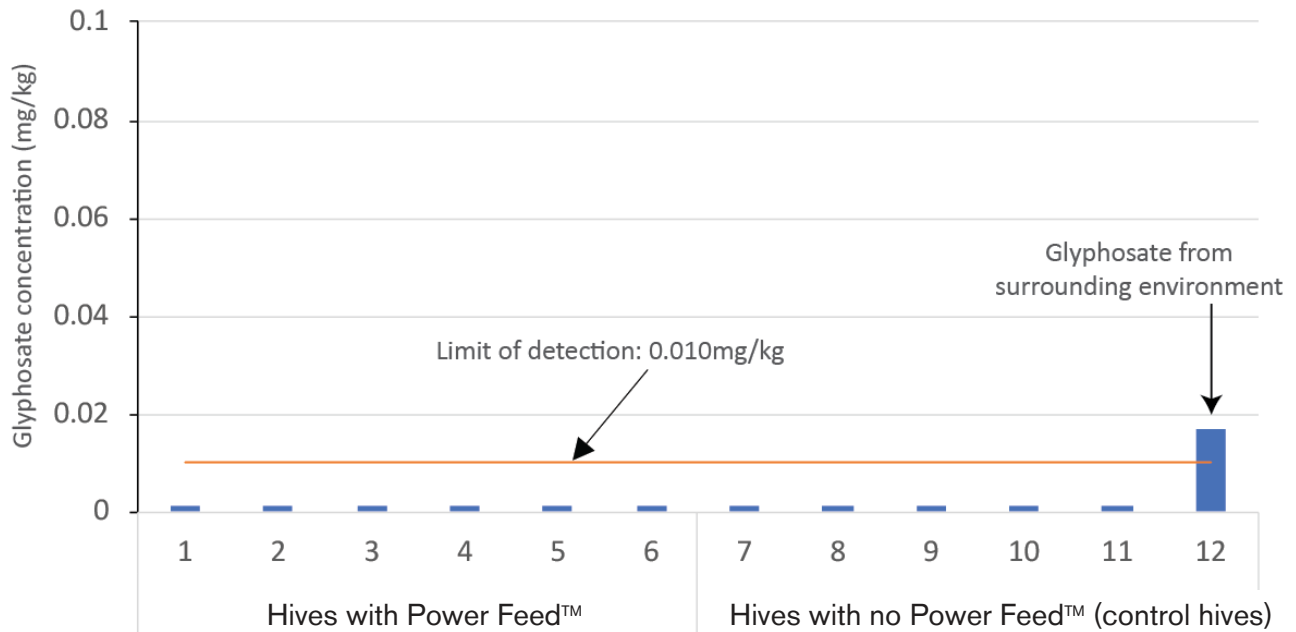


SCIENCE BASED NUTRITION

View more research online at www.vitahive.co.nz

Power Feed™

Glyphosate transfer from Vitahive Power Feed™ to honey



Hives with Power Feed™			
Hive	Glyphosate	AMPA	Glufosinate
1	ND	ND	ND
2	ND	ND	ND
3	ND	ND	ND
4	ND	ND	ND
5	ND	ND	ND
6	ND	ND	ND
Hives with no Power Feed™ (control hives)			
Hive	Glyphosate	AMPA	Glufosinate
7	ND	ND	ND
8	ND	ND	ND
9	ND	ND	ND
10	ND	ND	ND
11	ND	ND	ND
12	0.017	ND	ND

ND = not detected
Limit of detection = 0.010 mg/kg

The Glyphosate Question?

Trace levels of glyphosate are frequently found in many plant-based products, including pollen supplements. With increasing concern about glyphosate being found in honey, the Ecrotek Innovation Team developed a feeding trial to test whether glyphosate transferred from pollen supplements into honey.

The Trial

The trial was run using a small apiary of 12 hives in remote bush over a three month period. During the trial, half the hives were fed one 500g VitaHive Power Feed patty every 4 weeks, while the other half of the hives were used as a control group and did not have the VitaHive Power Feed supplement. At the end of the trial capped honey was sampled and sent to an accredited laboratory for glyphosate testing.

The results show there was no significant difference in glyphosate levels between hives fed VitaHive Power Feed and hives that were not fed VitaHive Power Feed ($P = 0.34$). Glyphosate could not be detected in the honey from 11 out of the 12 hives. The one hive with a glyphosate reading of 0.017 mg/kg came from a hive within the control group (not fed Power Feed), inferring glyphosate was present in the surrounding area and entered the hive through foraging activity.

The Result

There is no evidence to suggest that glyphosate can be transferred from VitaHive Power Feed to honey.



View more research online at www.vitahive.co.nz

What our Customers are saying...

“My team saw great results from our hives when using VitaHive. The bees love eating it and are all over it the instant it is placed on the hive. We found it is easier to mix VitaHive and it’s still moist after a few days which gives the bees time to fully consume it. We noticed it was especially effective during the cold winter weather, as the queen has been actively laying eggs during a time which they would usually be hibernating. Best of all, it’s New Zealand made, GMO free and natural.”

Reynaldo Dave – Apiary Manager at True Honey



Order online at ecrotek.co.nz