penergetic
the natural biotechnology

penergetic t

Test design

General information –
Data collection –

General information

General rules for trials

- Two identical stables must be available. If this is not possible, the two groups of livestock must be clearly separated. No "interconnection" via grids, water pipes, automatic feeders or similar.
- If total mixed feed ration (TMR) mixer is used, feed the control group first, then add penergetic t to the TMR mixer and feed the test group. After the application, clean the TMR mixer. It can take several weeks before the effect of the penergetic information disappears from the machinery.
- penergetic t can be added to the feed. Add the required amount into the mixer and mix with the feed. It can also be added to the mineral feed or saltlicks. Or it can be poured over silage, hay, etc., mixed with water.
- If equipment is used (feed containers, test tubes, watering cans, buckets, etc.) it is essential to use separate instruments throughout the experiment and mark them accordingly.
- If antibiotics are used, a reduction is feasible and recommended
- It is important that penergetic t is fed continuously
- Attention must be paid in combination with AquaKat. Water or metal can transmit the effects over long distances.

Setting up and documenting a measurement

- A photo documentation from the start until the end of the trial period (high quality images) is mandatory.
- Use previous documentations (evaluations/analyses without penergetic products) to enable a clear comparison.
- Description of the initial situation and the objective.
- Use the data collection form below.

Data collection: livestock

General data

Penergetic consultant	Stuart Chaney	
Customer	Sentry Hill Organics	Year of trial 2024
Farm location: country, city	Central Hawkes Bay, New Zealand	
Using penergetic products for the first time?	☒ Yes	☐ No, for _____ years
Objective of the trial	Add Penergetic t Layer Hens to the feed of approx. 1/3 of the 5,000 laying hens to measure if any egg-yield increase.	
	Secondary objective was to assess if egg-breakages would be reduced.	
	Longer term will be interested to measure laying-hen attrition rates change, and if the economical productive laying life will increase - currently 18 months.	

Trial data

Farm system	Organic hen farm with laying hens, housed only at night, free to roam in pasture during the day.
Farm size	20 ha
Animal species	Layer hens

	Stocking rate	Start date	End date
Control	Approx. 3,300 hens over 13 ha	Ongoing for over 10 years	
penergetic test	Approx. 1,700 hens over 7 ha	Dec 2023	Feb 2024

Analysis

Feed composition	☒ Yes (please add a copy) *Note 1	☐ No
FCR, ADG, carcass weight	☐ Yes (please add a copy)	☒ No
Water consumption	☐ Yes (please add a copy) **Note 2	☒ No

*Note 1: Local supply of organic grain mixed with Nutritec mineral mix
**Note 2: All hens have 24/7 access to reticulated water supply

Penergetic products

	Art. no.	Powder		g / head	Interval
penergetic t	1160	☐		0.028g	Daily
penergetic t		☐			
penergetic g		☐			
		☐			
Other penergetic products		☐			
		☐			

Other product information

Water consumption (flow rate / h, etc.)	Reticulated water in mobile hen houses - free access 24/7	
		N/A

Observed benefit / effect

Barn conditions, behavior of the animals, health of animals, ADG, FCR, water and feed consumption, quality improvement

Observation 1:	Observed and measured 10% increase in	egg numbers in Test Group
Observation 2:	Observed fewer broken eggs	
Observation 3:	No noticeable difference in attrition	
Observation 4:	No noticeable difference in productive	economical laying life

Quote customer	31/1/24 & 29/2/24: See Notes section	

Conclusion and further comments (please do not feel restricted by the amount of space provided, add extra sheets as required):

We asked the farmer the following questions:

1) Did we meet or exceed your expectations? A: Exceeded

2) Are you happy with the improved returns? A: Yes

3) Will you continue to use Penergetic t Layer Hens? A: Yes

4) How was Penergetics representation/communication? A: Great

Sentry Hill Organics: Trial of Penergetic t Layer Hens: (Dec 2023 – Feb 2024)

Summary & Additional Notes

Based in the sunny Hawkes Bay of New Zealand's North Island, Sentry Hill Organics farm is owned and operated by Phillippa & Tom White - they produce over 1.2 million chicken eggs annually.

During daylight hours the free-range laying hens have wide open pastures to roam and graze, and overnight they are tucked up safely in houses, and where they lay their eggs. Their total feed consists of a 50-50 mix of feed grain and whatever they can graze from the pasture. Cattle share the pasture with the chickens from time to time.

The Whites agreed to trial Penergetic t Laying Hen Animal feed supplement in a selected flock of hens starting December 2023. Late February they decided the trial was successful and they advised they planned to start using the product for all the flock.

The areas to observe where Penergetic animal product 1160 Layer may benefit include general health & wellbeing improvement of the laying hen resulting from a more settled digestion leading to:

- Improved feed conversion, and/or increased yield (egg production)
- Tougher eggshells leading to fewer broken eggs
- Reduced attrition rate and/or possibly longer productive life for laying hens.
- A positive return on the investment of the penergetic feed additive.

Good records had been maintained on these indicators so there was minimal additional recording required other than to separately record these stats from each of the 'Control' and the "Trial' group.

The number of laying hens varied throughout the year in the range 4,000-6,000. Annual feed including supplementary nutrition costs are ~$250,000; broken eggs average about 70 / day reducing annual revenue by revenue by $18,000; about 3 hens die daily with a replacement cost of $20,000 annually; and a hen's laying-life is 18 months.

The 15 mobile hen-houses are rotated across the pasture in a regular way within fenced-off areas. This maintains a healthy environment of the houses and allows time for pastures to regrow and recover. It was relatively easy to separate the 2 groups within double-fenced areas. The trial was conducted over 5 houses.

The amount of grain feed fed out is 120 gm/hen/day.

The Whites estimated their hens eat an equivalent amount of food from their outdoor grazing and scratchings of insects, grubs, worms, soil and plants.

The dosage of Penergetic product applied was based on 240 gm of feed/hen/day applied at the rate of 140 gm/Tonne of total feed.

Controls were in place to prevent cross-contamination of the effect of Penergetic t, including a chicken-proof fence which is 2 fences in parallel 1.5 m apart, and mixing feed twice a week for the control group first without Penergetic t, then with Penergetic t for the test group.

The White have high confidence the chickens do not pass into each-other's territory. There may be some carry-over of the feed supplement energy after 3 days into the control group mix but it was too expensive to bring in a second feed mixer. If anything, the carry-over would have benefited the control group's yield.

Water troughs are maintained topped-up 24/7 and hens are free to access water as needed.

<u>Results of the trial – Farmer feedback:</u>

- 31/1/24: "Eggshells seem to be tougher with fewer broken eggs".
- 29/2/24: "I've done the maths and at this stage it seems as though we have a 10% percent higher lay rate in the houses that are on the product. Hard to say if they have increased their layrate or they didn't drop as much as the control group with the hot weather over the last few weeks. We're going to start using it across all of the flock and have another 1,600 chickens due in a couple of weeks".

- Too early to access if any improvement in attrition rate or longer productive life.
- The ROI on additional cost of Penergetic t Animal product to Sentry Hill Organics is greater than10 times.