OptiPhos® Plus

NEW ZEALAND OWNED

Evidence based vet medicines

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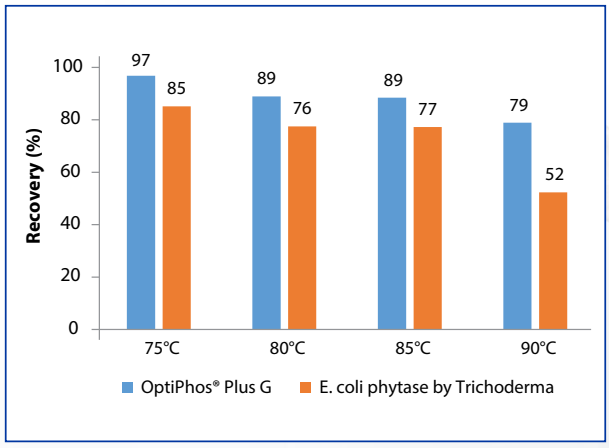
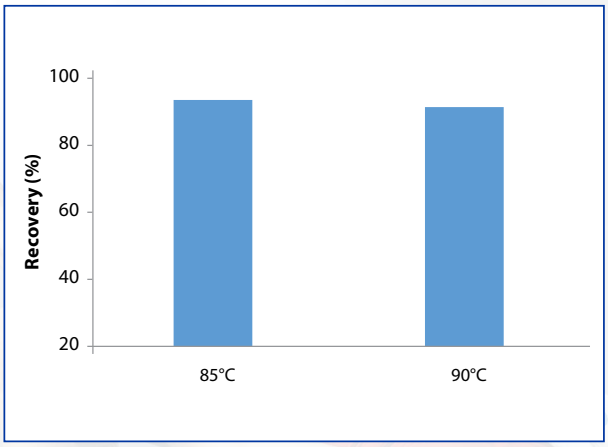
Highly stable....

High intrinsic heat stability

OptiPhos® Plus has shown to have high intrinsic heat stability:
- OptiPhos® Plus G can be used for pelleting up to 85°C
- OptiPhos® Plus CT is the preferred form when pelleting temperature exceeds 85°C up to 95 °C



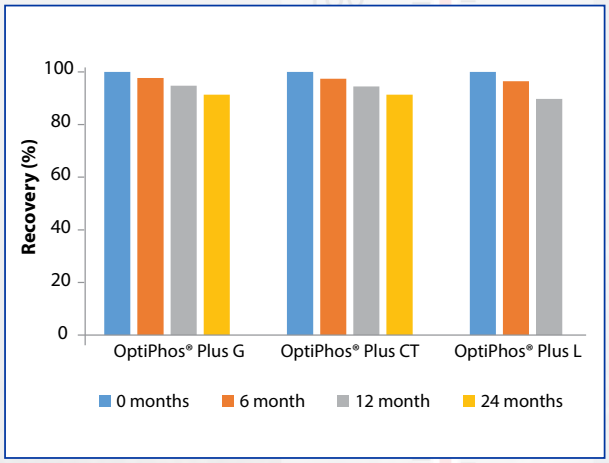
Heat stability of OptiPhos® Plus G vs a claimed intrinsic heat stable phytase



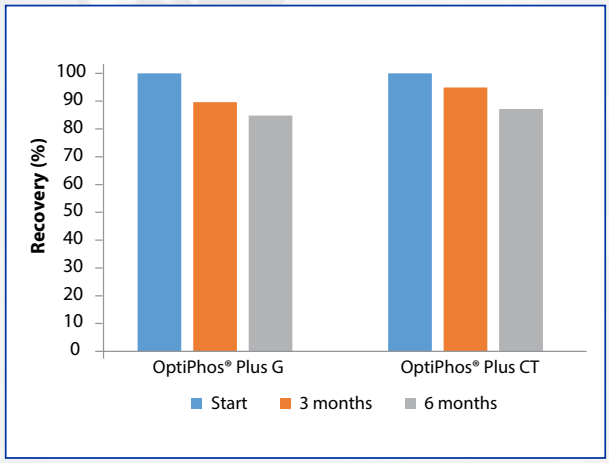
Heat stability of OptiPhos® Plus CT at elevated temperatures

Stability as product and in premix

Not only having a high thermostability, both OptiPhos® Plus G and CT demonstrated strong stability in premix, even in a very concentrated premix (0.1 %). Due to the fat coating, OptiPhos® Plus CT has shown to be the preferred form for incorporation in a concentrated premix kept for prolonged storage at elevated (> 25°C) temperatures.



Stability of the three forms of OptiPhos® Plus when stored at 25°C (EFSA report)



Recovery after 3 and 6 months at 25°C of OptiPhos® Plus G and CT in a 0.1 % premix containing choline chloride (EFSA report)

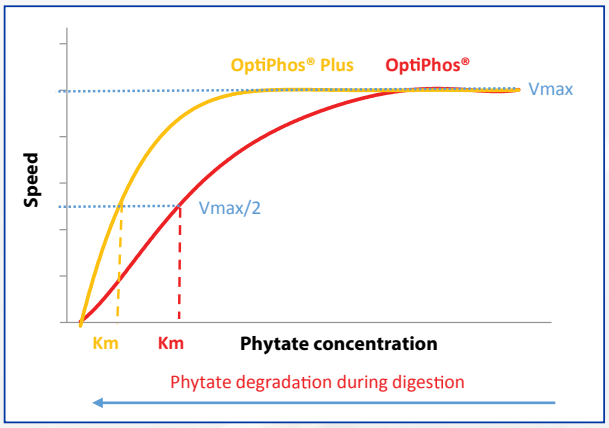
The advantages of A STABLE PHYTASE:

- **No losses during pelleting at temperatures exceeding 85°C (up to 95°C)**
- **Highest security of survival at fluctuating pelleting temperatures**
- **Longer shelf life as product, in premix and in feed**

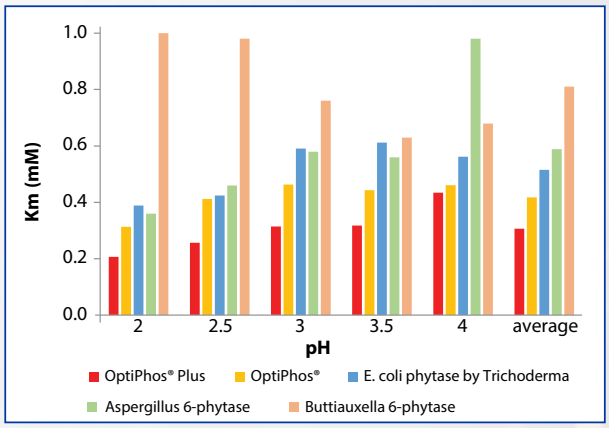
...and still the fastest

High affinity and speed

OptiPhos® Plus has the ideal characteristics of OptiPhos® (PPS concept): ideal pH profile in the range of pH 1-4, a high resistance to pepsin degradation and fast working.
The speed of phytate degradation by OptiPhos® Plus is maintained even when phytate concentration in the gizzard/stomach drop to very low levels. This is called the affinity, and is determined by the Km value, which is the concentration of phytate at which the phytase still works at 50 % of its maximum speed.
OptiPhos® Plus has shown to have a low Km value, indicating it can keep its high speed up long even when phytate concentrations drop to a low level. This is also why OptiPhos® Plus has high P matrix values and is specially well suited for superdosing applications.



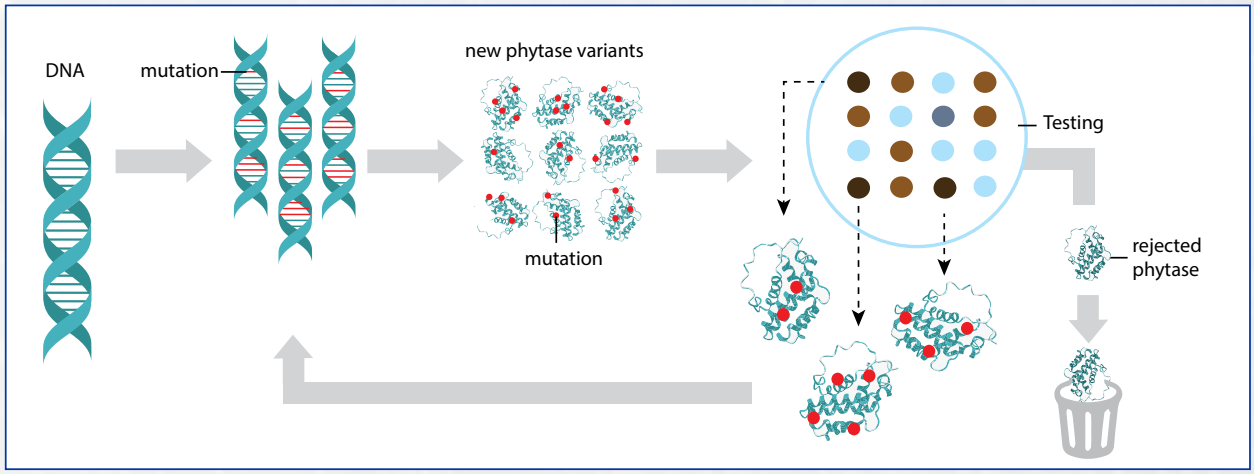
OptiPhos® Plus having higher affinity (lower Km) explaining faster phytate breakdown and higher P matrix values



OptiPhos® Plus has a higher affinity (lower Km) than other phytases at different pH values

Newest technology for protein engineering

OptiPhos® Plus is the latest generation phytase developed by Huvepharma® based on its know-how of enzyme technology. It was developed by inducing random modification in the DNA of OptiPhos® combined with rapid through-put screening for new and improved characteristics. The major target was improved intrinsic thermal stability and higher affinity while keeping other favourable OptiPhos® properties intact.



The advantages of A FAST PHYTASE:

- Highest savings of inorganic phosphate sources, so reducing feed cost
- A faster elimination of the anti-nutritional factor phytate, so demonstrating superdosing effects already at double dose
- Minimizing the environmental impact by reducing the excretion of phosphorus

Stable and fast

HUVEPHARMA®
We add performance to your business

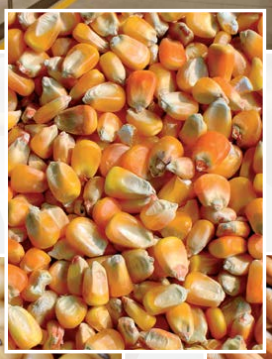
Services

The Global Technical Enzyme team is at your support to provide advice and recommendations on how to formulate with OptiPhos® Plus. Laboratory assays are available for analysis of feeds and premixes.

Product information

- **OptiPhos® Plus G** is a granulated product, produced via the Huvepharma® patented microgranulatoin process, resulting in a dust-free product. The product is intrinsically stable and recommended for pelleting till 85°C .
- Using a specifically developed coating technology, **OptiPhos® Plus CT** is produced and recommended for pelleting till 95°C.
- **OptiPhos® Plus L** is the liquid form, to be used for post pelleting application.

Product	Concentration (FTU/g)	Product form	Product stability	Pellet stability
OptiPhos® Plus G	5 000, 10 000 and 50 000	Granulate	Min. 2 years	to 85 °C
OptiPhos® Plus CT	5 000	Coated	Min. 2 years	to 95 °C
OptiPhos® Plus L	5 000 and 10 000	Liquid	Min. 1 year	



OptiPhos® Plus
Beat the Heat