

CollaPhos, the natural bone phosphate

CollaPhos, the natural bone phosphate



CollaPhos is a phosphorus source from organic origin which originates from carefully sourced animal bones out of which both collagen and CollaPhos are produced. CollaPhos has a high level of available and digestible phosphorus and calcium, which are present in the optimal ratio. The growth of the bones of broiler chickens is important for their well-being. Next to effects on well-being, it also fits seamlessly in the current need to have a circular poultry production.

Additional nutritional value

The tri-calcium phosphate is still embedded in its protein matrix, this combination is named a hydroxy-apatite matrix. The remaining protein (10% in the product) is collagen and represents an additional nutritional value. CollaPhos is produced at Sonac Vuren, the Netherlands. According to the current EU feed law CollaPhos is

permitted to be used in poultry feed, aqua feed and pet food. Dedicated feed mills or production lines are therefore necessary.

High biological value

During the digestive process in the gut, calcium and phosphorus are released at once and in the correct ratio for optimal absorption. Next to this, the calcium and phosphorus are still embedded in the collagen matrix which supports the biological value of the calcium and phosphorus. This makes CollaPhos very suitable to help to restore and help to prevent suboptimal bone health in young broilers. Tibia strength and thickness significantly improved in a broiler study. Further minerals (macro and trace) from organic origin resulted in offspring from slower-growing broiler breeder in improved body weight and tibia characteristics.* It further has been shown to increase bone mineral density in postmenopausal osteopenic women.**

* Bahadır Can Güz ; PhD Thesis "Healthy Bones for Broiler Chickens" 326 pages; Wageningen University, Wageningen, The Netherlands (2022)

** Hull report 2004

THE ADVANTAGES OF COLLAPHOS

- High level of available and digestible phosphorus and calcium
- Natural and safe origin
- Contributes to sustainable livestock production (recycling/reuse of P)
- Low in heavy metals, dioxin and no radio-activity
- Tracking and tracing system in place
- High lysine content

Digestibility

In animal nutrition a lot of different systems are in use to make the best estimation of the digestibility of especially phosphorus for farmed animals. This leads to several values for the same phosphorus source in different regions of the world. Sonac recommends the values obtained and deducted from the Dutch CVB system.

CollaPhos	Coefficient (%)
Pre-cecal digestibility P** (%)	87
Available P (%)*	100

* No Phytic acid present

** These digestibility figures for phosphorus have been concluded from a trial done with poultry at the WUR institute (the Netherlands), following the new WPSA¹² protocol.

¹ WPSA (World Poultry Science Association)
Literature reference:

² Rodehutsord, M. 2013. Determination of phosphorus availability in poultry. World's Poult. Sci. J. 69:687-698. doi 10.1017/s0043933913000688.

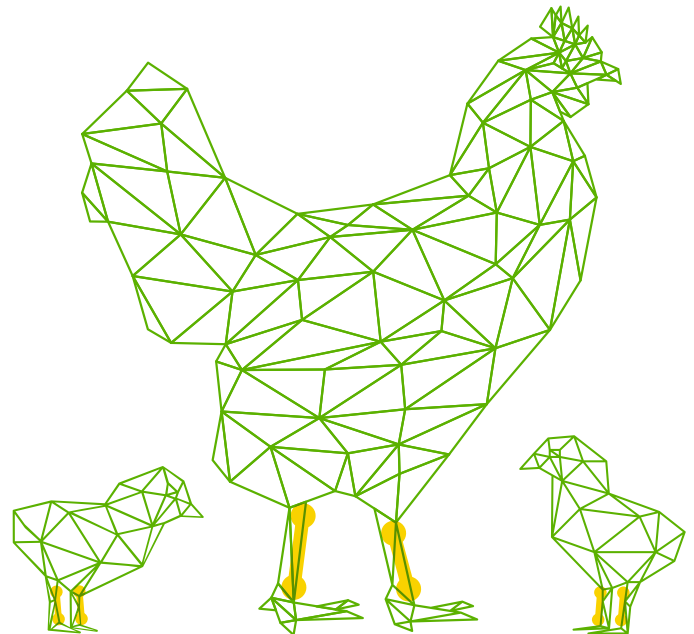
Sustainable agriculture

Mineral phosphates are produced from mined rock phosphates out of reserves that are limited towards the future. CollaPhos is produced from bones of healthy animals. So using CollaPhos as a source of calcium and phosphorus contributes to the reuse of this resource. Therefore CollaPhos is a very sustainable ingredient and fits in the Sustainability Development Goal Number 12 from the United Nations. It is the vision of Sonac (Darling Ingredients) to deliver a significant contribution to a circular bio-economy for a sustainable, healthy animal food chain.



SDG Nr. 12. Responsible consumption and production

Nutritional data (indicative and as is)	g/kg
Moisture	50
Crude protein	100
Calcium	300
Phosphorus	130
Digestible P poultry (% of total p)	113
Available P poultry (% of total p)	130
ME poultry	2.7 MJ/kg



Calcium and phosphorus in a collagen matrix improve bone strength of broiler chicken

The growth of the bones of broiler chickens is an important subject for their well-being. With calcium and phosphorus embedded in a collagen matrix it is possible to strengthen the bones of these animals. The replacement of inorganic by organic macro minerals (Ca, P) did not only result in enhanced growth, but also in better bone characteristics. Almost all tibia morphological, biophysical, and mechanical characteristics were positively affected by dietary organic macro minerals. (Güz, B. C., R. Molenaar, I. C. de Jong, B. Kemp, M. van Krimpen, and H. van den Brand. 2021b. Effects of green light emitting diode light during incubation and dietary organic macro and trace minerals during rearing on tibia characteristics of broiler chickens at slaughter age. Poult. Sci. 100:707-720.)

About Sonac: Sonac is a leading manufacturer of reliable ingredients of animal origin. With an active R&D program, reliable processes and sustainable end products Sonac continuously adjusts to market needs. A good geographical spread of locations and a broad portfolio of fats, proteins, minerals and specialties make Sonac a trusted partner for many international producers in food, pet food, feed and fertilizers, worldwide. Sonac is part of Darling Ingredients.

sonac

For more information about this specialty product please contact us:

PO Box 9 NL 5690 AA Son +31 (0)499 364 820 info@sonac.biz sonac.biz

NUTRIENTS

DARLING
INGREDIENTS