

ProAct 360™

A complete perspective.

Perfected for progress.

Get the full scope on feed protease to
improve protein digestibility



dsm-firmenich 

Science and service in sync


We all want to get ahead – in life and in business.

But how do you grow your business to its full potential, without compromising on performance, animal health and sustainability?

At dsm-firmenich, we are committed to find the answers with you and for you. By setting a new market standard: a faster and more consistent protease solution combined with end-to-end digital services to guarantee tailor-made support beyond the functional benefits of our products.

A 360 degree perspective like never before. Building a partnership to push the boundaries of our industry and grow your business full circle.



A person wearing a colorful plaid shirt and dark jeans stands in the foreground on the left, looking towards a large poultry house. The background is filled with rows of white chickens in cages, illuminated by bright overhead lights. Two large teal circular graphic elements are overlaid on the image: one in the upper right and another in the lower center.

ProAct 360™ offers a complete solution, beyond the parameters of protease, to grow your business full circle.

Proven to increase protein digestibility ProAct 360™ and supports more sustainable production. A catalyst for positive change, this results in reduced feed costs and increased return on investment.

Moreover, interconnected digital services that allow you to reach your targets.

A 360 degree perspective like never before. ProAct 360™ is the new market-standard in Feed Protease Technology.

Grow your business with ProAct 360™

The need for protease-based feed solutions is greater than ever today, in a volatile market facing high input prices. Protein is one of the most expensive nutrients in an animal's diet but is essential for growth. As demand for protein sources increases, the price is expected to continue to rise.

To enhance protein utilization, therefore reducing the feed cost and environmental impact, a protease can be added to the broiler diet. A protease speeds up the breakdown of proteins to nutrients that the broiler can use. For optimal efficiency, dsm-firmenich offers ProAct 360™, the only second-generation protease on the market, specifically developed and optimized for Feed. ProAct 360™ goes beyond a standard protease by offering: faster protein breakdown, higher digestibility of all amino acids and better degradation of antinutritional factors, leading to an improved feed conversion ratio and higher cost savings. By efficiently utilizing protein in the small intestine, ProAct 360™ can also reduce ammonia emissions, adding sustainability as another benefit to this second-generation protease.

ProAct360™: the only second generation protease entirely created for the feed industry with optimal pH profile and broad substrate specificity.

dsm-firmenich is a pioneer in feed proteases and leader in the market with more than 20 years of experience in investigating and application of feed protease.

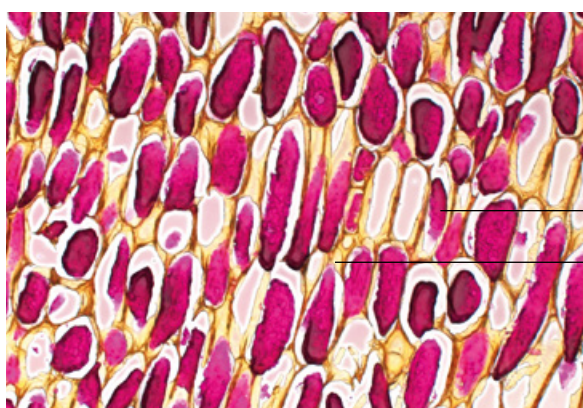


ProAct 360™

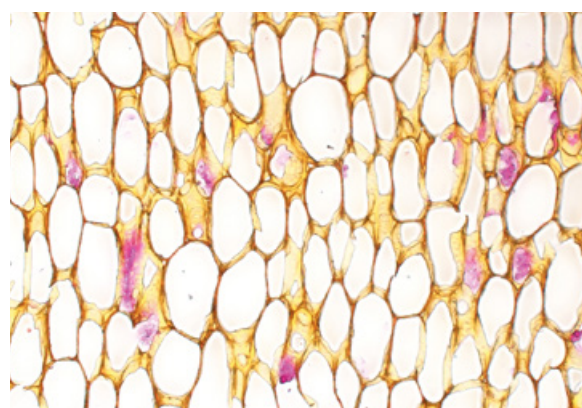
The New Market Standard of Feed Protease Technology

- ✔ 60 *in vivo* trials between 2018–2022
- ✔ Excellent result in all stability tests

Microscopy of stained cells before and after treatment with ProAct 360™

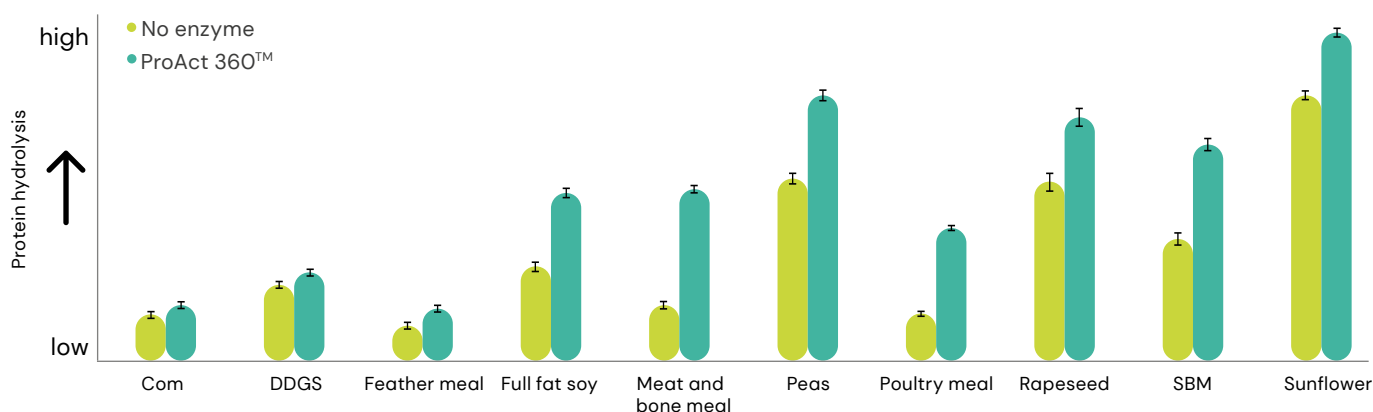


Cells before ProAct 360™ treatment.
Red color show undigested protein



Cells after ProAct 360™ treatment

ProAct 360™ works on a wide range of feed raw materials



Conditions

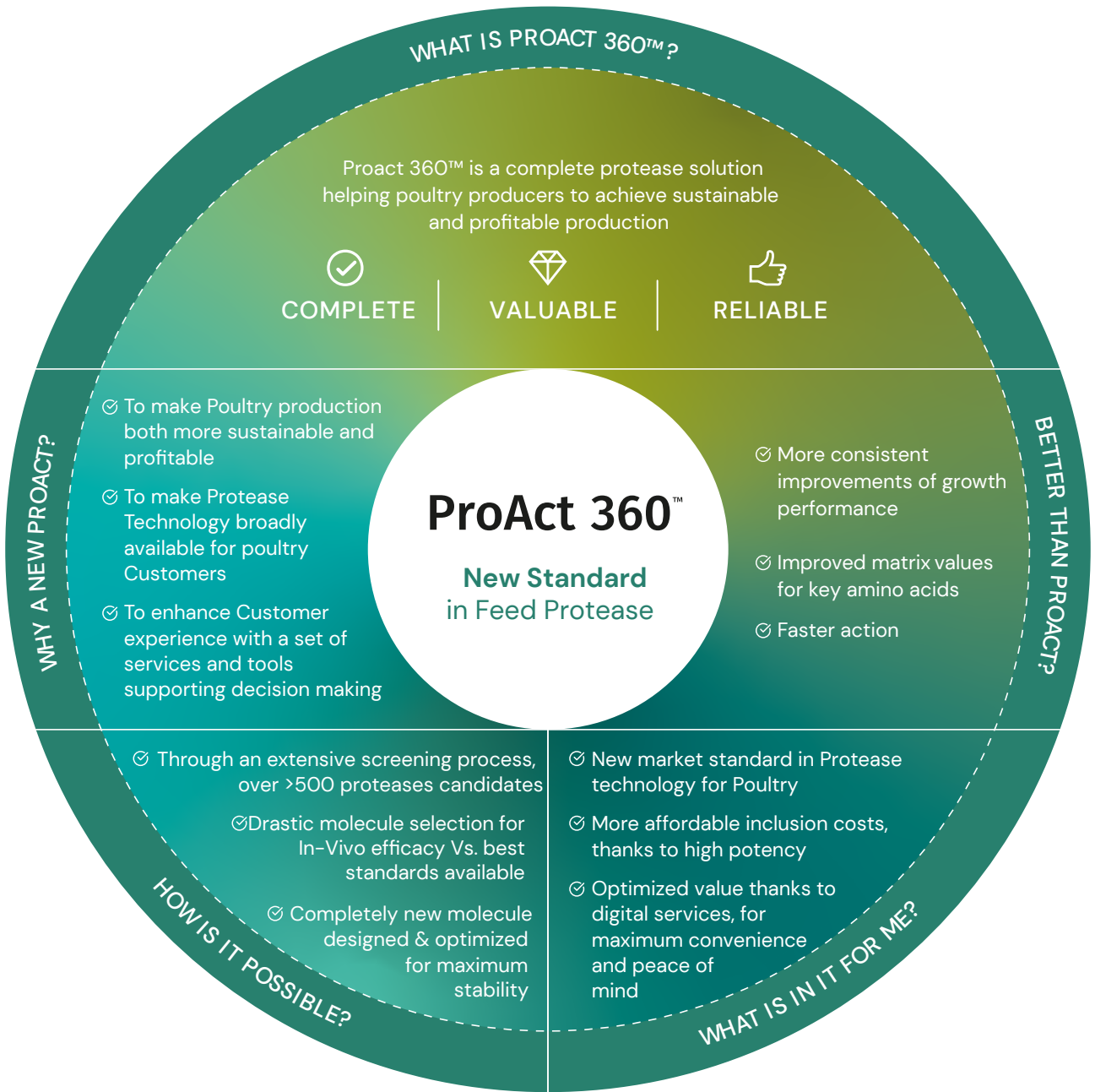
Substrate: 10% dry matter

Temperature: 40 °C (± 2°C)

Incubation time: 4 hours

pH = 6 (citric acid phosphate with varying pH)

Replicates = 4



ProAct 360™ delivers better & faster protein hydrolysis compared to competitors, achieving superior *in vivo* performance and feed cost savings.

A closer look at the unique features of ProAct 360™

- Optimal pH profile
- Maximised amino acids digestibility
- Lower feed cost
- Pelleting stability
- Minimise emissions
- Digital services catalogue for full potential

Superior product quality

ProAct 360™'s attributes include low dust formation, good flowability, stability, salt coating and more.

ProAct 360™ product form

	Activity (NFP/g)	Standard Dose (g/MT)	Standard Dose (NFP/kg)	Product Form
ProAct 360™	600,000	50	30,000	Granulated

Average particle number per g product	10,000 - 12,000	
Number of particles per 100g feed	50-60	
Number of particles per 50g feed	25-30	
Average particle size (mm)	0.5	
Bulk density, kg/L	2	
Dust, mg on Heubach	< 1	
Flowability	Good	

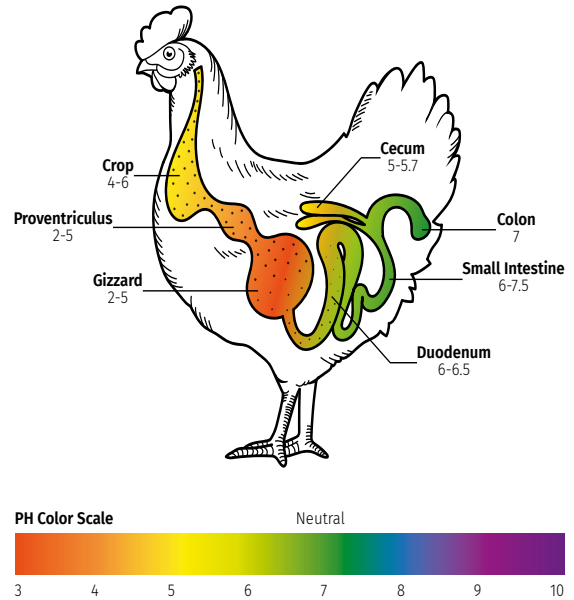
Optimal ph profile

Specifically optimized for use in feed production



ProAct 360™ is a very efficient second generation protease that had been screened for high in vivo performance and high gastric stability in comprehensive feeding trials.

In addition ProAct 360™ has been stabilized by protein engineering making the sfericase protease stable in the gastric environment and preserving its activity in the intestinal tract.



Minimise emissions

A sustainable solution to grow your poultry business responsibly



New and improved, ProAct 360™ is the future-proof pathway to profitable, responsible poultry production. A complete protease solution created to improve amino acid digestibility on a broad range of raw materials. It increases feed efficiency and drastically reduces livestock emissions, while promoting better broiler health. With ProAct 360™, profitable growth doesn't mean compromising on performance or sustainability.

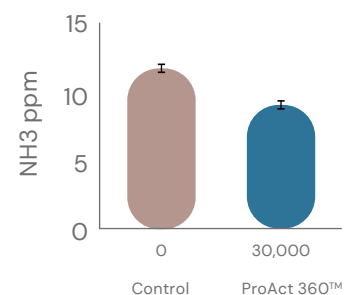
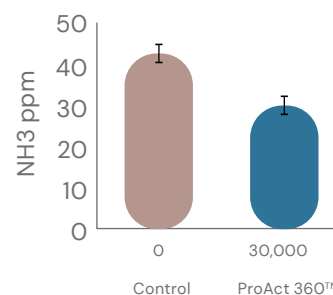
ProAct 360™ puts sustainability in full scope.

Impact of ProAct 360™ on Ammonia emission

Below are two graphs representing two independent experiments.

ProAct 360™ 30,000 NFP/kg

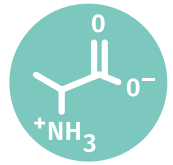
ProAct 360™ 30,000 NFP/kg



Conclusion & Benefits

ProAct 360™ reduced ammonia emission from the poultry litter

Maximised amino acids digestibility



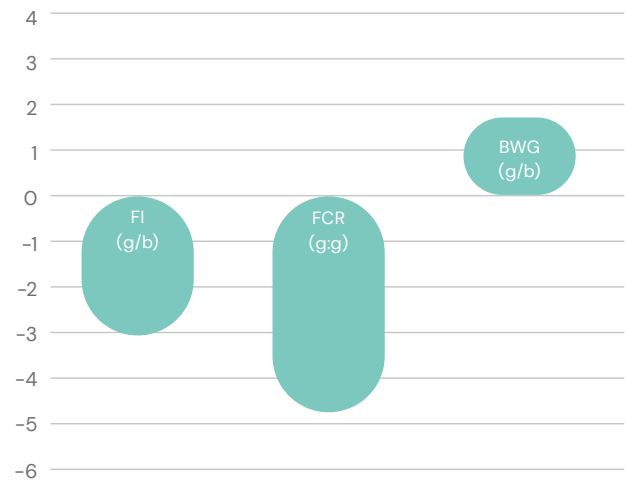
Science that supports your broilers performance



ProAct 360™ is the all-in-one solution designed to positively impact your business and the environment, featuring a new, high potency molecule that boosts amino acid digestibility on a broad range of raw materials. By increasing the gastrointestinal functionality of broilers, you enable lower feed protein levels in diets, reduce feed costs, and significantly support animal health and welfare.

ProAct 360™ is the key to doing well while doing good.

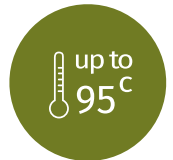
% difference to control until 35 days



Source: Location of the trial Village – Neuf ; Year 2019

Pelleting stability

Excellent recovery throughout pelleting process



Protease stability during feed manufacturing process (e.g. pelleting) is becoming very important especially when the pelleting time and temperature are increasing in the modern feed mills. ProAct 360™ recovery throughout the complete feed manufacturing process is excellent.

The ProAct360™ molecule is protected by a salt coating capsule, guaranteeing high recovery levels under commercial feed production conditions.



Lower feed cost



ProAct 360™ helps you reduce feed costs significantly



ProAct360™ is a complete protease solution that allows you to reduce your feed costs.

The average broiler consumes approximately 4.5 kilograms of feed in one crop cycle, which translate to 4,500,000 kilograms of feed for 1 million broilers. It was shown that it is possible to reduce feed intake resulting in saving more than 100 tonnes of feed for 1 million broilers.



Digital services catalogue for full potential

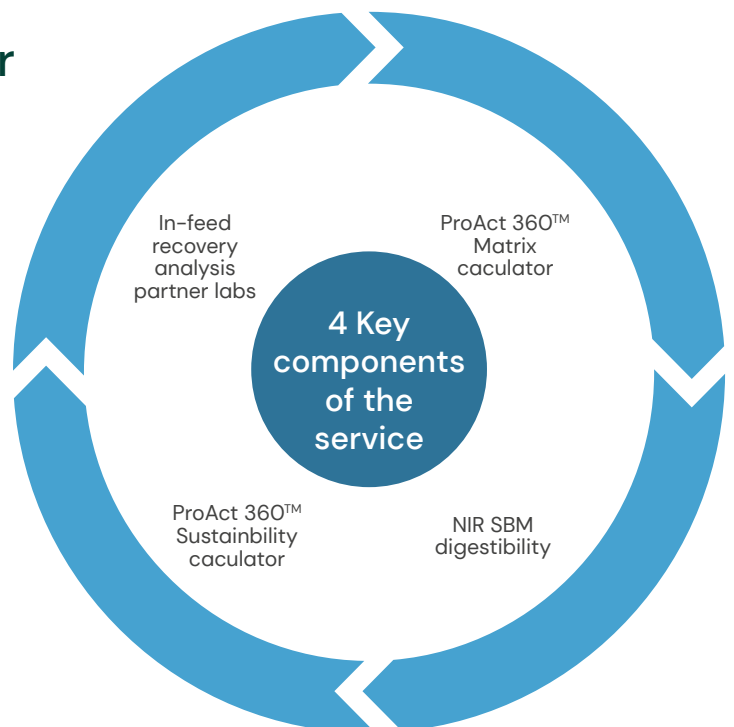


Grow your business with our science on your side



Created for operational and financial transparency, ProAct 360™ combines increased potency protease with science-based analysis to successfully grow your business. Audit the quality of your raw materials, calculate an optimized set of matrix values, or measure your environmental impact using an innovative set of digital services—and make decisions based on fact.

ProAct 360™ offers digital services that put poultry production into perspective.



We bring progress to life



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