

PRESERVING NATURE'S BEST PROTEIN: THE ROLE OF SPRAY DRYING ON WHOLE EGG POWDER IN PET NUTRITION

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A Protein Source That Sets the Standard

Egg is one of nature's most complete foods. With a biological value of 100% — the benchmark against which all other proteins are measured — it provides every essential amino acid pets need, along with fat-soluble vitamins, minerals, and bioactive compounds.

A peer-reviewed study from Kansas State University evaluated the protein quality of various egg, poultry, and vegetable proteins used in pet food manufacturing — assessing amino acid composition, protein efficiency ratio (PER), lysine availability, and essential to non-essential amino acid ratio. Spray-dried egg ranked highest in PER among all proteins tested, outperforming every poultry meal and vegetable protein in the study, and was used as the reference standard against which all other ingredients were compared.

The challenge has always been preserving that nutritional richness in a stable, shelf-ready ingredient. Spray drying is the answer.

Spray Drying: The Only Way to Lock It In

A protein source this complete deserves a process that protects it. Spray drying guarantees relatively low heat-spoilage and yields products of constant, pre-determined characteristics. Research confirms, spray drying retains the high nutritional quality of whole eggs:

- **Fat content:** not significantly affected
- **Fat-soluble vitamins:** vitamin E fully retained; carotenoids lutein and zeaxanthin fully preserved; vitamin A reduced by only ~14%
- **Amino acids:** only minor reductions of 4–10% — eggs remain an excellent source of essential amino acids even after spray drying

Why Environmental Conditions Matter

The quality of spray-dried powder goes beyond the process itself — the surrounding environment plays a significant role. A peer-reviewed study published in *Applied Sciences* (2025) demonstrated that reduced inlet air humidity leads to measurably better powder properties: higher powder recovery, lower moisture content, and lower water activity — all direct indicators of a more stable, higher quality final product.

Built Where the Conditions Are Right

Emirdağ, Afyonkarahisar sits in the heart of Central Anatolia — one of Turkey's driest regions, with consistently low ambient humidity year-round is home to where Exwin46 is produced. Our state-of-the-art, fully automated spray drying plant built in 2023 with the latest technology —is supporting to preserve Exwin 46's highest quality protein content in an environment that naturally supports the low-humidity conditions the science points for superior powder quality.

References:

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