



ORNITHO

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Scientific journal for contemporary bird keeping

Protein and amino acid requirements during breeding

Dr. G. Werquin

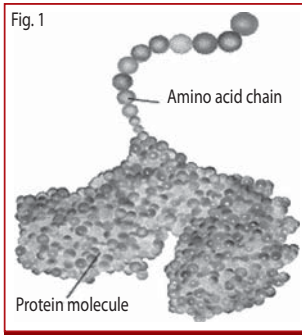
Every bird breeder knows that the diet has special requirements during the breeding season. After all the production of healthy young requires an immense range of nutrients. In this article we will specifically discuss one of the most important nutrients needed during the breeding season.

What are proteins?

Firstly it is extremely important to understand what proteins are exactly. Proteins consist of chains of amino acids, connected to each other by chemical compounds and ordered in a specific structure. This structure defines the nature and functions of each protein. (Fig. 1)

The proteins provided through the diet may be animal or vegetable. The quality of the protein supplied via the feed is mainly defined by the levels of the various amino acids. Approximately twenty different amino acids are present in dietary protein. These amino acids are subdivided into essential amino acids, which cannot be made by the body itself, and non-essential amino acids, which the body can make itself and for which the provision via the diet is not as important. When high levels of essential amino acids are present these are called good quality (high biological value) proteins. There are about ten essential amino acids, of which methionine, lysine, threonine and tryptophan are the most important.

The quality of the proteins (i.e. the levels of essential amino acids) is consequently also a much more important dietary parameter than the total protein content of the food.



Prestige

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Functions in the body

The amino acids, released during the digestion of the proteins in the digestive tract, are used in the body to make new proteins. These are needed for building and renewing muscles and organs, to transport certain molecules (transport proteins), to send “messages” from one organ to another (hormones), to fight disease (antibodies), etc.

The protein requirement is greater during some physiological processes: particularly during growth, recovery, egg laying, feeding chicks, feather development. In birds the protein and amino acid needs increase greatly during the breeding season and the moult.

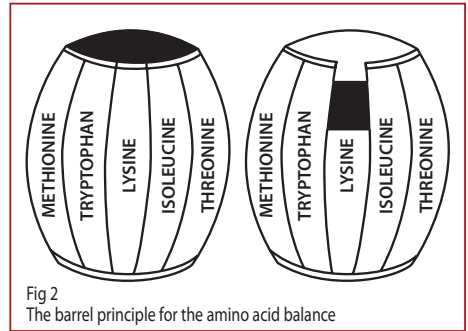
As already mentioned it is not the total amount of protein but the supply of the right quantities of essential amino acids that define the quality and growth of the young. The different essential amino acids must be supplied to the same ratio as required in the body’s own proteins. If one of the essential amino acids is not present sufficiently in the diet, then the other amino acids cannot be used either in the body’s proteins and they are burnt and excreted via the kidneys which stresses the organism.

In dietary theory this principle is called “*barrel-principle*”: in the way a barrel can only be filled with water to the level of the lowest slat (Fig. 1), the production of proteins in the body is defined by the level of the “limiting amino acid”. This is the essential amino acid present at the lowest concentration.

Diet during breeding

The information explained above makes it clear that there is little point in increasing the protein level in the ration during the breeding period with protein supplements that are not specifically attuned to the amino acid levels in the ration.

At the second “International Symposium on Pet Bird Nutrition”, which took place in October last year in Hannover, various researchers warned against the damaging consequences of excessively high levels of proteins during the breeding period. Scientific



research, amongst others by Dr. Petra Wolf, showed that the protein requirements in exotic birds are generally overestimated. Studies in African greys and macaws moreover show that with high protein levels the concentrations of urea and uric acid in the blood increase greatly, as a result the kidneys are severely stressed and the likelihood of gout increases. Dr. Wolf warned for the irresponsible use of protein supplements, that increase the protein levels in the ration to far in excess of the requirements and severely stress the organism.

When developing bird foods, also the veterinarians and nutritionists at Versele-Laga take into account at first the specific amino acid requirements during the different physiological periods.



The **Pro-Growth** concept not only supplements the Orlux egg foods with calcium and carnitine that can be absorbed easily but also with essential amino acids, in order to obtain the optimal levels of the different essential amino acids (e.g. methionine, lysine, threonine and tryptophan). Account is specifically taken here with the amino acid levels already supplied via the other ingredients. As a result the proteins in these bird foods have a very high biological value and all the amino acid requirements can be met without stressing the organism with high protein levels. A guarantee for optimal breeding!

Prestige bird seeds has a new look

Dr. P. Ghysels

Fashion does not stand still. Of course we do not want to go as far as the fashion industry, where designers bring out a new style every 6 months. But after 10 years we thought it was high time to give the familiar Versele-Laga bird seeds a new look.

GVP PRESTIGE RANGE



GVP PRESTIGE PREMIUM RANGE



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Many of you will probably already have noticed that the Prestige bird seeds received a new packaging. And the Prestige Premium bird seeds are also on their way in a new packaging. More colour, more beautiful images, different bags depending on the type of bird. Versele-Laga again confirms its position as leader and trendsetter in bird food through this renewed packaging.

Of course our birds don't get much from an attractive bag. The content must also be top quality. Versele-Laga has stood guarantor for this for years: only seeds from the newest harvest and the best quality are sought for the production of the seed mixtures. And that is where things have been a little difficult in recent months. Who can fail to remember the unpredictable nature of the weather in 2007: a heat wave in the spring, followed by a wet summer. The harvest of bird seeds has never been as bad as it was in 2007. In order still to ensure the acquisition of top quality seeds, our buyers had to dig very deep in their purses. Just as your own daily diet that became significantly more expensive, that was also felt in the price of the bird feed in the shop. We hope that this situation is temporary. In any event you can continue to count on a consistent composition of the mixtures offered by Versele-Laga, where we still exclusively use premium quality seeds. And surely that is also worth a few extra Euro cents.

NEW: Orlux Clay Bloc Mini

Dr. P. Ghysels

In a previous issue of Ornitho Info we already extensively considered the use of clay in bird's diets. The main reasons why birds eat clay are: the absorption of dietary toxins, the provision of minerals and absorption of grit to grind the seeds.

Young birds especially gain a lot of benefits from the consumption of clay. Due to the fast growth during the first days/weeks of life the absorption of food by young birds is also very high. Consequently young birds absorb a lot more plant toxins than adult birds. By adding clay to the ration those toxins will be bound (= deactivated). Clay also neutralises damaging heavy metals and pesticides.

For a correct growth of the bone structure young birds have a great need for minerals and trace elements. These are extensively present in clay. The many stones and gravel mixed in the clay play an important role in a good digestion both in young and old birds. They help to grind the seeds finely and to make them digestible, and are consequently crucial to all seed-eating birds.

Furthermore clay has a regulating action on the digestion and can therefore also be used to improve the consistency of the excrement and be used as a safe and effective aid in combating diarrhoea.

Convinced of all the benefits related to the consumption of clay, Orlux has already produced a clay block for larger types of birds for years: Orlux Clay Bloc Amazon River. Extensive testing

in the Versele-Laga Pet Research Center has shown that canaries, European and tropical birds and small parakeets also like to eat clay and benefit considerably from it. For that reason a new clay bloc Orlux Clay Bloc Mini has been developed. It is especially adapted to these smaller types of birds due to its softer structure and finer grit.



Orlux Clay Block Mini is a natural source of clay. A pack contains 3 different units, especially for smaller types of birds like canaries, European and tropical birds and small parakeets.

FIDELITY CLUB continues

The Fidelity Club is a saving system, to which all members of a bird association may contribute actively for the benefit of their club. Members of the association cut out the Fidelity Club-points from the wholesale packages of **Prestige**, **Prestige Premium**, **NutriBird** and **Orlux**, that they used. The chairman or secretary of the association collects these Fidelity Club-points and sends them to Versele-Laga. In that way the bird association can choose from a range

of prizes that are exceptionally practical to develop good club operations: posters, cage letters, folders, tombola prizes, seeds, cups, lecture evenings, factory visit, ...

Over recent years this saving system has been extremely popular in hundreds of clubs. Has your club not yet taken any initiatives to start-up the Fidelity Club saving system? Don't hesitate and mention it at your next club meeting. It can only benefit the club. A new savings book valid until 31.12.2010 is available now.



Request of **Fidelity Club** saving book 2008

Club Name:

Name of chairman or secretary:

Road:

Postcode: Town:

Send back to:
Versele-Laga, Bird Products, Kapellestraat 70, B-9800 Deinze, Belgium - Fax +32/9/386.85.13