Statement about Warehousing Conditions of KLIBA NAFAG Laboratory Animal Diets

Introduction
The main risks for stored diets are degradation of nutrients, microbiologic spoilage and contamination by rodents, birds, insects and other pests (vermin). All these risks can be managed for a given time period by appropriate practice.

Microbiological spoilage
There are two major physical factors affecting quality of diet in storage: temperature and humidity. Microbiological spoilage occurs when the moisture content of the diet is too high. To eliminate this factor moisture content of every produced batch of diet at KLIBA NAFAG is measured and the batch will only be released if the humidity is < 13% in the diet.
Mold are organism which start first to growth in an insufficient dried diet but as they do so they generate more moisture that allows bacteria to develop and the vicious circle of spoilage is started.
To avoid this, the warehouse has also to fulfill essential conditions. The diets after production have a moisture content of <13%. To avoid a recontamination with moisture after production the relative humidity in the warehouse should be between 45 – 65% by a temperature not higher than 25°C. The warehouse of KLIBA NAFAG fulfills these conditions and is permanently monitored to guarantee optimal diet quality until loading of the goods for delivery.

Degradation of nutrients
In the laboratory animal feed business, one of the most important rules is to eliminate all factors that can influence an experimental outcome. From the nutritional point of view, it is the degradation of nutrients (particularly fats and vitamins), that must be monitored. We have to limit the risk that the variation in nutrients levels might affect experimental studies, even if the diets still meet nutritional requirements. This is the reason why KLIBA NAFAG provides a maximal shelf life of 9 months for pressed diets (pellets) and 12 months for extrudates.

KLIBA NAFAG recommendation for appropriate storage
We define the term “appropriate storage” by dark (UV protected), dry and ambient temperature (15-25°C)

1. Temperature fluctuations must NOT exceed 10°C. This is to avoid condensation humidity.

2. To guarantee the good shape of pellets and extrudates, below 0° C temperatures must be avoided. No freezing temperature.

3. The feeds must be kept in close bags, not directly on the floor (only on pallets), with no direct contact to walls. Air relative humidity must be between 45-65%.

4. All plastic films or cardboard pallet protections must be immediately released after reception of the delivered feed.

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As reminder, KLIBA NAFAG products shelf life

Shelf life of irradiated diets:	12 months after production date
Shelf life of standard pressed diets:	9 months after production date
Shelf life of standard extrudate diets:	12 months after production date

Best regards

KLIBA NAFAG-Team

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