## **Stress Relief Pack**

Changes in management routines or the environment can cause stress for poultry. Typical examples are a change in diet, changing feeding times, a change in micro-climate or vaccination. These changes should be minimised as much as possible, but the effects of stress can be reduced when they occur.

The most common measures to reduce stress relate to climate, lighting, water and feed management as well as nutritional aspects.

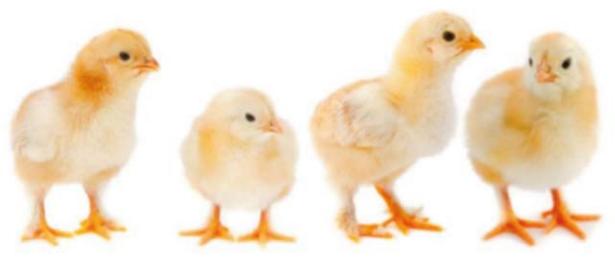
Stress can be reduced in practical ways, for example by preventing transport in hot periods, preventing infections as much as possible through good hygiene and feeding methods, maintaining routines, avoiding a dusty environment and lowering the animal density in the house during hot periods.

**Climate measures** include sufficient ventilation, not too little or too much, and maintaining clean air inlets and channels. Values should be placed so

the air goes directly to the birds. Under-air pressure must be intact and high ammonia levels prevented. Extra secondary ventilators and cooling with a water spraying system may be considered.

**Light management** should be scheduled to keep birds calm. Walk through the house in a calm manner, so birds stand up and the heat can escape from underneath their body and wings.

Water and feed management includes adequate good quality cool water with extra drinkers if necessary. Feeding times should be adapted to ensure more is supplied during the coolest periods of the day or at night.





These management measures are important to reduce stress. But they may not be sufficient. In that case an enhanced diet is required. The most important dietary components to reduce stress are antioxidants, B-vitamins, vitamin K, vitamin A, choline and changing the electrolyte balance of the feed. The antioxidants, such as vitamin C and Grape PP, must have their working capacity in the bird itself.

**Grape PP** is a product based on polyphenols, which has very good antioxidant capacities and can be used as an alternative for vitamin E. Vitamin K is added to improve blood clotting in hot periods when the clotting process typically slows down. Choline is important for the energy metabolism in the liver, and prevents fatty liver syndrome.

The risk of fatty liver syndrome is higher in hot periods. Electrolytes and betain are added for the right osmoregulation in the birds. Stress Relief Pack contains all these important vitamins and minerals.

Stress Relief Pack supports the bird under stressful conditions such as during periods of hot or cold weather, around vaccination, de-beaking, at placement of day-old chicks in the house, for the remaining birds after part of the flock is taken to slaughter and during a period of health challenges. The inclusion rate of Stress Relief Pack is 1% in the diet.

General guidelines for including Stress Relief Pack are shown in Table 1.

Table 1. General guideline for application Stress Relief Pack 1%

Circumstance	Application period
Heat/cold stress, severe	1 - 2 days before weather change and use during whole hot period
Heat/cold stress, moderate	1 - 2 days before weather change until 2 - 3 days after hot period started
Vaccination	1 - 2 days before until 2 – 3 days after vaccination
Placing birds	3 - 5 days (or use ProGress)
Partial delivery of birds	2 days