

# Turkeys: finding an excellent energy source to replace soya oil

**N**obacithin 50 is a mixture based on soya lecithin and fatty acids. Lecithin is a fat-like substance which can be produced from soya bean, rape or sunflower oil.

After degumming the oil, the lecithin is extracted from the gum and then cleaned. Lecithin is a complex mixture of at least 60% phospholipids; the other constituents are triglycerides, phosphatidic acid, phosphatidylcholine and tocopherols.

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Lecithin has a positive effect on several metabolic processes, because phospholipids play an important role in such processes.

The main effect of lecithin is that it works as an emulsifier.

This means that lecithin makes it possible to mix oil and water together. Lecithin plays a role in the splitting and absorption of fat.

So the use of lecithin leads to an increase in fat splitting, fat absorption and fat digestion.

This results in more energy availability and thus improves the technical performance of the animals.

Noba Vital Lipids has, with Nobacithin 50, more than a decade's worth of experience in the broiler, layer and pig industries.

The product is very often used in feed for these animals because of its nutritional benefits. The product is highly digestible, which makes it a good energy source for young animals.

Based upon this experience Noba Vital Lipids undertook a trial with turkeys to test if Nobacithin 50 is also a good fat source for turkeys and to determine if you can replace soya oil with Nobacithin 50.

## Trial set up

One-day-old BUT-6 male turkeys were used at the start of this trial. The length of the trial was 20 weeks and a five phase feeding system was used. Table 1 shows the four different treatments.

The aim of the trial was to test if Nobacithin is a good replacer for soya oil and to determine the efficacy of different levels of Nobacithin 50 in turkey diets.

We made differences in levels of Nobacithin 50 in phase 4 and 5.

Fat product 20L45 is a vegetable fat blend with 20% linoleic acid (C18:2) and a maximum level of 45% FFA (Free Fatty Acids).

Each group had 259 birds; in total 1036 birds were used in this trial.

| Feeding phases |            |                            |
|----------------|------------|----------------------------|
| Groups         | P1, P2, P3 | P4, P5                     |
| T1 - Control   | Soya oil*  | 3% soya oil + rest 20L45   |
| T2             | Nobacithin | 3% Nobacithin + rest 20L45 |
| T3             | Nobacithin | 6% Nobacithin + rest 20L45 |
| T4             | Nobacithin | Nobacithin                 |

\* The level of soy oil was 2% in P1, 3.4% in P2 and 4.3% in P3.

**Table 1. The four different treatments used in the trial.**

## Results

The turkeys reached a high final body weight of approximately 22kg. There are no differences in final weight. Fig. 1 shows the body weight for each treatment per phase.

Fig. 2. shows the feed conversion ratio (FCR) for each treatment per phase. There were no significant differences between groups.

Sometimes there is a small variation of FCR, but it is always in line with the control group. There were also no significant differences in FCR for the total period.

## FPD score

Foot pad dermatitis, scored at a 4 points scale, conforms to the European Standard method. The group with only Nobacithin (treatment 4) had the same FPD score of

2.85 as the control group with soya oil. The other groups with 3 or 6% Nobacithin showed a lower score. The group with 3% scored 2.43 and the group with 6% Nobacithin scored 2.0.

## Meat quality

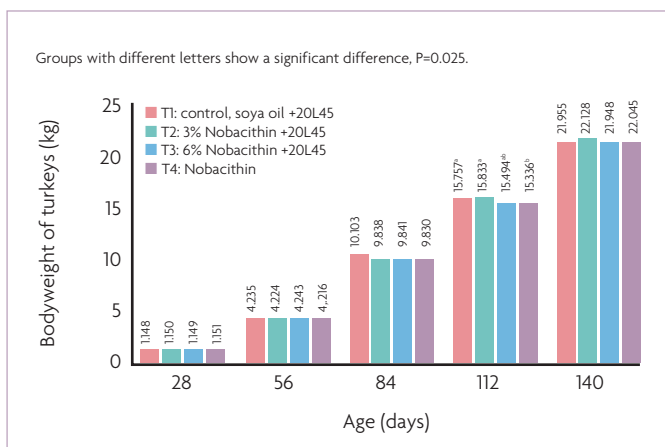
There were no differences in the carcass quality and meat quality between the groups.

## Conclusion

This trial has shown that the groups with Nobacithin 50 performed as well as the control group with soya oil. Therefore, Nobacithin is a good replacer for soya oil for all phases of age.

Nobacithin 50 is also very suitable for starter feed for turkeys. ■

**Fig. 1. Bodyweight of turkeys at the end of each phase.**



**Fig. 2. FCR for each phase of the experimental period.**

