

New strategy for animal-friendly beak treatments in broiler breeders - 1

Beak treatments for chickens are an important remedy for feather picking and cannibalism. This behaviour is the cause of many infections and can lead to increased mortality. It explains why beak treatments are routine in the poultry world.

However, our attitudes towards animal welfare change over time and practices that were previously commonplace are now thrown into question.

This is also the case with beak treatments. Do they have a place within 'animal welfare'?

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www.roxell.com/natural-beak-smoothing

The two types of beak treatments used today have advantages but mostly numerous disadvantages, including the impact on animal welfare. Nowadays, infrared (IR) beak treatment is the most frequently used method.

This treatment is carried out in the hatchery in an environment with a high level of biosecurity. After the IR treatment is completed, the tip of the beak is still intact. However, between day 14 and 21 following the treatment, the treated tissue erodes and the tip falls off.

There is no open wound but the chickens experience pain and numbness in the beak. In addition, neuromas can form (swelling around nerves).

The beak also continues growing after the treatment, which often results in an unnatural and irregular beak shape. In some cases, split



Fig. 1. The socio-economic trend of improving animal welfare is high on the agenda for many countries.

beaks can form and the weaker scar tissue can break off.

'Hot-blade' debeaking is carried out at poultry farms by experienced people in an environment with a lower level of biosecurity. The tip of the beak is removed mechanically. There is an open wound that bleeds and can get infected.

This increases the likelihood of death, partially because catching and debeaking the birds is stressful in itself. On the day of the debeaking, staff dim the lights and fast the chicks. This can have a far-reaching impact, lasting even into the production phase.

The role of governments

For governments in many regions, the socio-economic trend of improving animal welfare is high on the agenda (Fig. 1).

Now that there are alternatives to beak treatments on the market, certain countries have already banned them:

- The Scandinavian countries were the pioneers, and Austria, Germany and the Netherlands have also changed their legislation in recent years (red).
- Five more countries are considering putting a stop to beak treatments: Belgium, Luxembourg, Switzerland, Australia and the United Kingdom (dark blue).
- In France, Canada and New Zealand, there are currently no plans for legislative changes, however, there are guidelines meaning beak

treatments are not always permitted (green).

There is no doubt that this list will expand in the coming decade.

Poultry companies are choosing sustainability

Breeders and poultry companies understand that times are changing. A company that wants to be sustainable will lack credibility without high standards of animal welfare.

Poultry companies are therefore eager to test out alternatives to beak treatments – as long as it makes economic sense. If new techniques are found to be animal friendly and optimise feed costs and returns, the sector is very open to new alternatives to beak treatments.

Research into alternatives to beak treatment

Chickens peck each other to establish a hierarchy. Also, the mating behaviour of a cockerel can cause injury to the back of a hen's head. In intensive poultry farming this can lead to problems.

Feather picking and external injuries can rapidly spiral into cannibalism, making mortality skyrocket. If the situation gets totally out of control, you can lose a third of the group.

The financial risks should not be underestimated. Therefore, it is not without reason that the sector is

concerned about stopping beak treatments altogether without an alternative.

The downsides are evident from the tests that Roxell has carried out over the past few years. If there is no beak treatment at all, beaks develop severe overbites and very sharp tips. This leads to extra deaths and an explosive increase in feed waste.

Tests show that a hen without beak treatment drops an additional 9.5g of feed while eating per day compared with a hen with a treated beak. This is because efficient eating and drinking is hindered by poorly shaped beaks. Ultimately, this has a knock-on effect on the flock's uniformity.



In 2013, Roxell decided to do research into a product innovation that would render beak treatments completely unnecessary.

The question they wanted to answer was: how can we control the growth of beaks in broiler breeders in a completely pain-free way while they eat?

An idea developed to integrate a metal file into the bottom of their feeder pans, so every time broiler breeders eat their beaks rub against the file. The birds should have beautifully smooth beaks before the end of the rearing period.

Research began at the Roxell Innovations Center in Maldegem (BE) and in a later phase moved to rearing and production houses.

They also cooperated with the large breeding companies – Aviagen, Cobb and Hubbard – and integrated their feedback. Following an intensive testing period, this product innovation was shown to work perfectly. The solution was named 'Natural Beak Smoothing'.

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Natural Beak Smoothing for broiler breeders

In 2018, Natural Beak Smoothing was ready to be sold. The method works as follows:

- The bottom of the feeder pan is fitted with a rough texture made of metal.
- When the chickens eat, their beaks rub against the rough texture of the pan bottom,
- This controls the growth of their beaks in a natural way. As a result, the chickens develop well-formed beaks.

Natural Beak Smoothing can be integrated into each of Roxell's oval feeder pans for broiler breeders.

This solution is one of the most innovative feeding concepts on the market today. Results show that the

growth of the beaks is kept under control from day one. After 14 weeks of rearing, the beaks are beautifully smooth.

This investment in additional animal welfare also quickly pays off. According to calculations, the extra costs are recouped within two years and often even faster.

This is because producers save on feed costs, have healthier and more uniform birds, and, eventually, have more fertilised eggs.

Benefits for animal welfare

- A decline in the risk of infection due to pecking and less stress for the birds.
- No deterioration in young chicks after beak treatment. The general health of the birds is better and more consistent.



The bottom of the feeder pan is fitted with a rough texture made of metal.

Fig. 2. The advantages of Natural Beak Smoothing.



- It is easier for the birds to eat and drink due to the nicely-formed beaks.
- The poultry company is making a sustainable choice for the future by implementing an increased level of animal welfare.

The economic benefits

- The mortality rate is at least 2% lower.
- Since the beaks are nicely rounded, there is less food wastage. Results show that you can save up to 6.3g of feed per animal per day, compared with IR treated hens. By the end of a flock with 12,000 birds, this figure results in feed savings of up to 34 tonnes.
- Of course, traditional treatments such as mechanical hot-blade

debeaking and IR are no longer needed if you opt for Natural Beak Smoothing. These outdated methods are quite labour-intensive and also involve recurrent costs of around €0.07 (\$0.09) per bird. Though, of course, costs will vary per region and technique.

- A healthier, more uniform group has better fertility rates, which means that more eggs, and ultimately more day-old chicks, are produced per hen.

Three years after this product's launch, the poultry market is in agreement that it is a perfect alternative to traditional, painful beak treatments.

Part 2 of this article will look at results during the rearing period.