



Nova-Tech Engineering

- Overview of Industry and NTE Value Propositions
- Animal Welfare Update

Nova Tech Purpose Statement

**We create revolutionary solutions
that advance our customer's ability to
feed the world.**



Beak Treatment

Let's Start with Why

Infrared Beak Treatment (IRBT)



GOALS OF BEAK TREATMENT

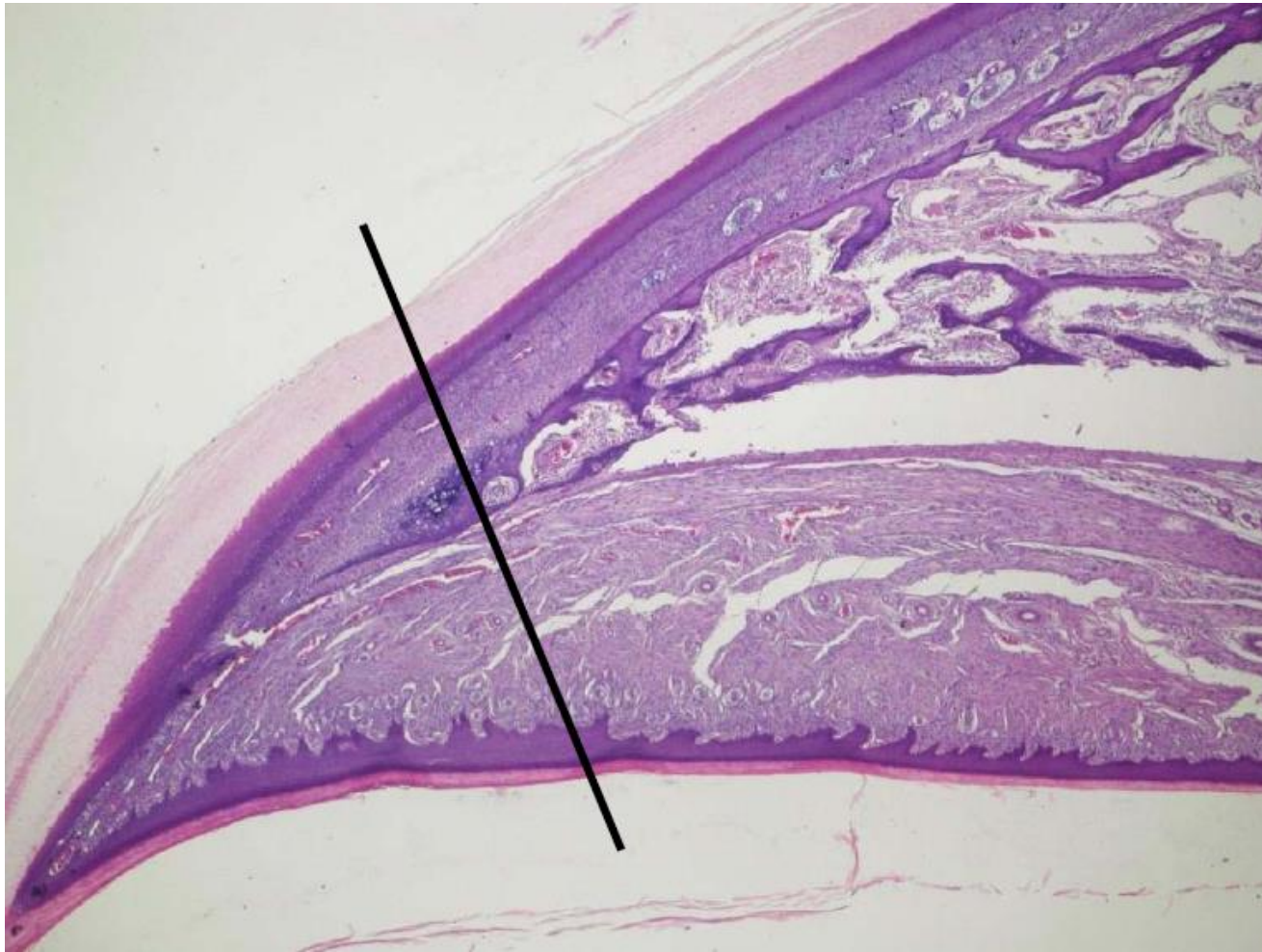
- When properly administered beak treatment helps to:
 - Control of pecking related injuries and cannibalism.
 - Improve feather scores / bird temperature regulation.
 - Improve feed conversion ratio
 - Promote bird development, weights and flock uniformity.
 - Improve feed intake.
 - Key for sustaining peak egg production in high performing layer strains.
- The above helps to maximize the genetic potential of poultry species

OTHER BENEFITS OF INFRARED BEAK TREATMENT

- Non contact bloodless procedure.
- Improve bio-security. Administered in bio-secure hatchery versus traveling teams to the farms.
- Adjustable / prescriptive treatment. Able to match treatment against flock age, breed and farm conditions.
- UK research suggest that IR beak treatment of ² day old chicks does not result in chronic adverse consequences for sensory function, nor does it demonstrate evidence of chronic pain associated with the procedure.

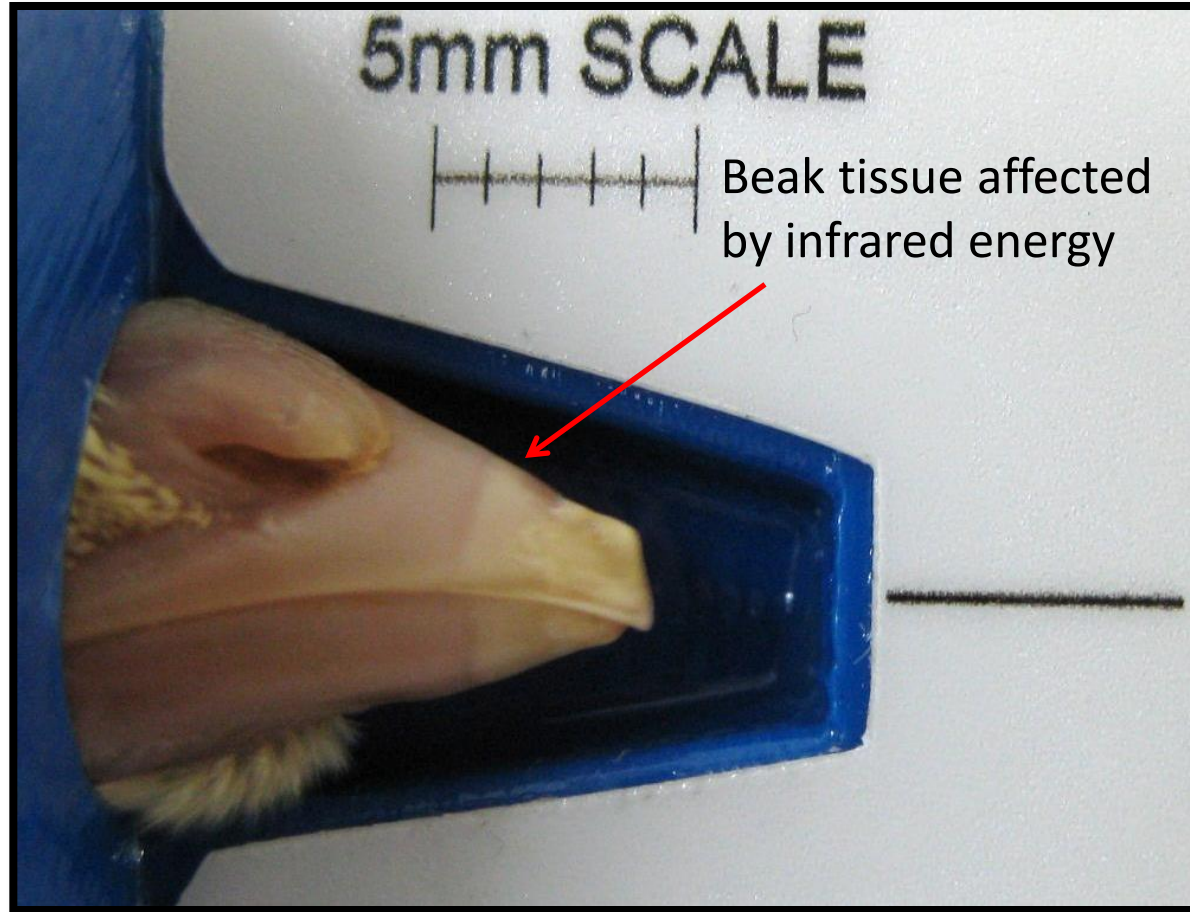
² Chronic neurophysiological and anatomical changes associated with infra-red beak treatment University of Glasgow, Dr Dorothy McKeegan, Dr Adrian Philbey

Beak portion exposed to treatment source



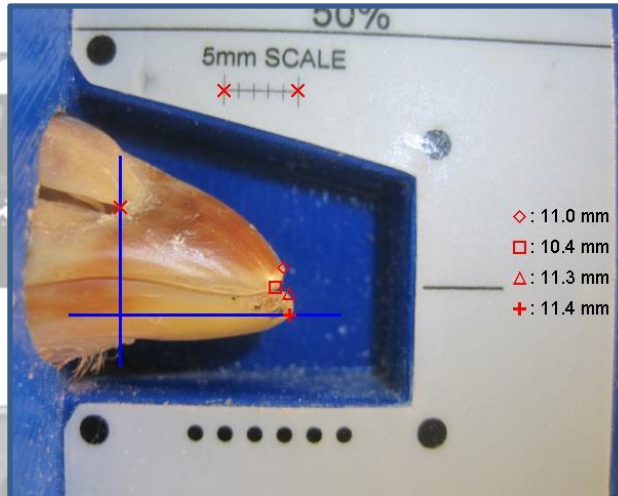
Infrared Treatment

1 Day After

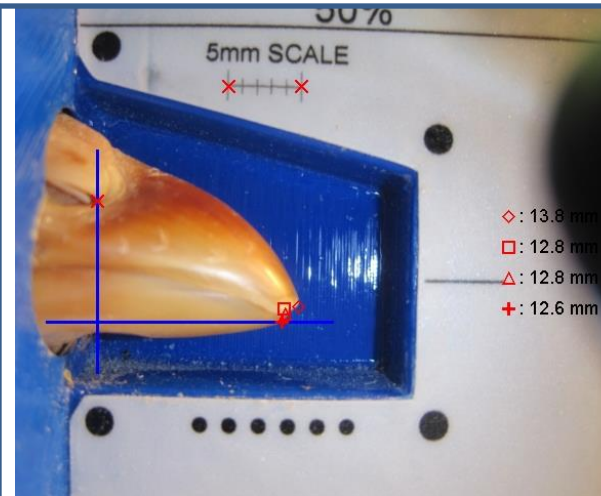


Examples of Prescriptive Treatment

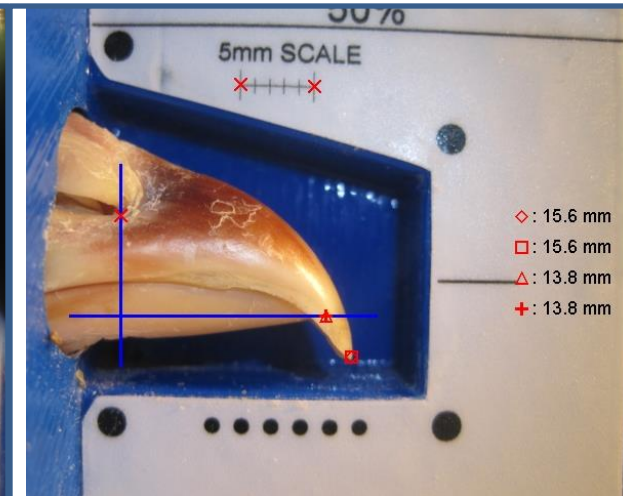
@84 Days



25/23 Plate
30% of Beak Length
Reduction



27/23c Plate
15% Beak Length
Reduction



No Treatment
100% of Beak Length

Economic Impact of IRBT ¹

- Hens with IR treatment of the beak tip at day old required 25 g (LB) and 48 g (LSL) less feed per kg egg mass than untreated controls.
- The IR treated groups exceeded the untreated controls by 22 and 49 cents per bird, respectively, or 220 (LB) and 490 (LSL) Euro more profit per 1,000 hens housed.
- The advantage of IR treatment compared to traditional beak trimming was 15 (LB) and 38 (LSL) cents per hen housed, indicating that a higher price for IR treated day-old chicks is not only justified as a contribution to hen welfare, but also by elimination of beak treatment cost on the rearing farm and higher egg income over feed cost on the layer farm.



Influence of Food Retail and 3rd Party Auditing Groups

Tesco Guidelines

- 18 pages of guidelines
- 146 individual points of requirements
- CS1. All suppliers within the poultry supply chain must have an approved status within an independently audited quality assurance scheme (to ISO/IEC Guide 65: 1996 BSEN 45011:1998). The schemes that are accepted are found in the “Agriculture Requirements- Approved Scheme” list.
- CS4. Traceability exercises tracing where products or live animals have come from and their next destination must be completed within a four hour time frame. The Health and Welfare plan must be reviewed and signed by the hatchery veterinary surgeon on an annual basis and changes agreed with the business in response to repeated disease problems.

Tesco Guidelines

- CS47. No mutilations are permitted on commercial chickens, ducks and geese.
- CS48. Beaks can only be treated under veterinary advice using infrared on day old poults. If beak treatment is carried out then the following must be adhered to no more than one third of the upper mandible may be removed.
- CS49. Claws can only be treated under veterinary advice using infrared on day old poults. Toe clipping is not
- permitted.
- CS146. A licensed labour provider must be used to provide temporary labour in the United Kingdom.

NCC Guidelines 2014

Revised every 2 years

The following principles (which apply to all types of housing and strains of chickens) were considered in the development of this document:

- 1. Poultry raised for food should be cared for in ways that prevent or minimize fear, pain, stress, and suffering.
- 2. Guidelines for welfare should balance scientific knowledge and professional judgment with consideration of ethical and societal values.
- 3. It is the welfare of the chickens themselves that is foremost, not how humans might perceive a practice or an environment.
- 4. Poultry should be treated with respect throughout their lives and provided a humane death when processed for food or when they are euthanized for any other reason.
- 5. The NCC Animal Welfare Guidelines and Audit Checklist are formally reviewed every two years, with the current review conducted by a committee of scientific advisors followed by a review by the NCC Animal Welfare Committee, who recommends final changes to the NCC Board of Directors. This two-year cycle will continue indefinitely.

International Welfare concerns


- 2000 Germany bans de-beaking of turkeys
- 2015 Italy bans claw treatment in turkeys
- 2016 Germany, Denmark, UK, proposed to ban beak treatment
- “Beak trimming is to be banned in the Netherlands from 2018, three years earlier than originally planned, due to pressure from political groups.”
- Asian countries track the EU requirements



Frequently Asked Questions

What is the Poultry Welfare Coalition?


The Poultry Welfare Coalition is a collaboration of stakeholders who are committed to animal care that results in wholesome, safe and accessible food and who support production and management practices that support positive welfare outcomes for commercial poultry. Coalition members believe these practices must be guided by what is best for the bird, while considering the needs of the people who care for them.



In addition, the Coalition will:

- Base our decisions on evidence-based science
- Provide truthful and accurate information
- Support consumer choice and encourage transparency
- Promote innovative thinking and continuous advancement in technology and practices to improve poultry welfare
- Respect differences of opinion and encourage informed discussion

Why was the Coalition created?



The Poultry Welfare Coalition was formed to provide meaningful strategic and tactical support to organizations that are promoting the welfare of commercial poultry through the use of evidence-based science, influencer outreach and public engagement. Poultry welfare topics often cross poultry species and geographic borders. The Coalition was created to provide a central resource for objective information on key poultry welfare topics.

Who are members of the Coalition?

Coalition membership is open to genetics/breeding companies; egg, chicken, turkey and duck producers; poultry products producers; equipment, products and services suppliers to the poultry industry; research institutions; trade associations; non-governmental organizations; retail food and foodservice manufacturers and distributors; and other stakeholders working to support production practices that provide appropriate welfare for commercial poultry.

What areas of the poultry industry does the Coalition support?

The Poultry Welfare Coalition supports all facets of global commercial poultry production – chickens, eggs, turkeys and ducks as well as the breeders and hatcheries that support them. The Poultry Welfare Coalition is international in scope, with initial members from Canada, the United States and Europe.

Don't other organizations already do this?

The Coalition's intent is not to duplicate or replace any existing organization but to provide additional resources and expertise about poultry welfare to groups working on behalf of commercial poultry producers and the global poultry industry.

Are you a lobbying organization?

No. The Poultry Welfare Coalition is an information and support resource for strategic decision making relating to the well-being of commercial poultry. We may provide information to organizations who engage in policymaking or lobbying but the Coalition itself does not engage in lobbying for or against specific policy.

What poultry welfare issues will the Coalition address?

The initial focus of the Coalition is to support informed communication on the practice of beak treatment. Additional practices and topics will be addressed based on public, governmental/regulatory and member interest.

International Poultry Welfare Coalition

- https://www.youtube.com/watch?v=qfjGtEG_jFI.

