



Beak Trimming

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The need for beak trimming

- US production has full daylight in lay
- Controlled light in rear
- Difficulty in stopping pecking behavior once established
- Trauma involved in beak trimming older birds
- Difficulty in avoiding management incidents leading to pecking



Development of beak trimming

- Mike Aglio, Arbor Acres
- Early work was in early 1950's
- Cannibalism – broilers and breeders
 - High light intensity
 - Nutrition ????
 - Carcass grade problems



Development of beak trimming

- Mike Aglio development sequence
- Worked with "specs."
- Next used oak board put between upper and lower beak, then cut with knife.
 - Problems, mortality due to bleeding/infection, slower growth due to sore beaks, slow work.
- Side cut pliers.
 - Crushed tissue leading to slow growth, etc.

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Development of beak trimming

- Mike Aglio development sequence.
 - Knife plus soldering iron
 - Extremely slow; tissue damage.
- Bill Lyons. Owned electrical supply house.
 - Developed with Mike a blade that would cut and cauterize at the same time.

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Development of beak trimming

- Mike Aglio development sequence.
 - Tried to beak trim at earlier ages.
 - Developed top notch blade for day-old beak trimming.

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Beak Trimming – effect of day of treatment

- Day of hatch
 - Less trauma
 - More consistent?
- 6-8 days
 - Feeding behavior established
 - Consistency of work by crew.



Beak Trimming

- Typical method is:
 - Electrocautery at either,
 - day of hatch
 - 6-8 days of age
 - Stress, infection, variability
- Trend to more beak trimming in hatchery



Beak Trimming – Aviagen initiative

- Initiative by hatchery staff and customers
- Method should:
 - Minimize stress
 - Avoid open wound to introduce infection
 - Be accurate
 - Be repeatable



Beak Trimming – Nova-Tech Engineering

- A company based on engineering for livestock production
- Already collaborating with Aviagen on other hatchery equipment





Infrared Beak Treatment

A new technique to improve the welfare of day-old broiler breeders

Nova-Tech Beak *Treatment*

- Non-invasive
- Uses a focused high-intensity infrared light source
- Penetrates corneum to kill cells in the basal tissue
- Normal pecking activity wears away corneum



Nova-Tech Infrared Machines

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Beak Treatment Mask

- Holds chick head securely
- Delivers consistent, accurate treatment

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Masks

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Beak appearance at placement

- May appear untrimmed at a glance
- Closer inspection will reveal slight discoloration to beak tip

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Beak Treatment



7 day-old female
Note the black discoloration at beak tip

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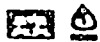


Beak Treatment

Treated male
at 3 weeks of
age



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Infrared beak treatment - advantages

- Less trauma
 - Subjective – hatchery staff
 - First week mortality – less infection
 - Whole life performance

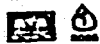


Beak treatments - statistics

- Additional first week mortality & benefits

Method	First week	Pecking	Performance
• None	0	+++	+/-
• Traditional	+0.5 (0.2 -> 1.0)	-/+	+
• Infrared	+0.3 (0.1 - 0.5)	-	+

• Data collected over the development period



Infrared beak treatment – advantages

- More consistent
 - Objective – 1/4 to 1/3 removed in >99%
 - Better work environment
 - Better training of personnel
 - More automation



Infrared beak treatment – Aviagen plan

- 100 percent of requested orders from August 2002
- Invitation to customers and colleagues in broiler and layer industries
- Extend beyond the USA?



Infrared beak treatment - invitations

- Customers already involved
 - Some have completed production cycle.
- Competitors will be given access
- Other interested parties