



INTERNATIONAL

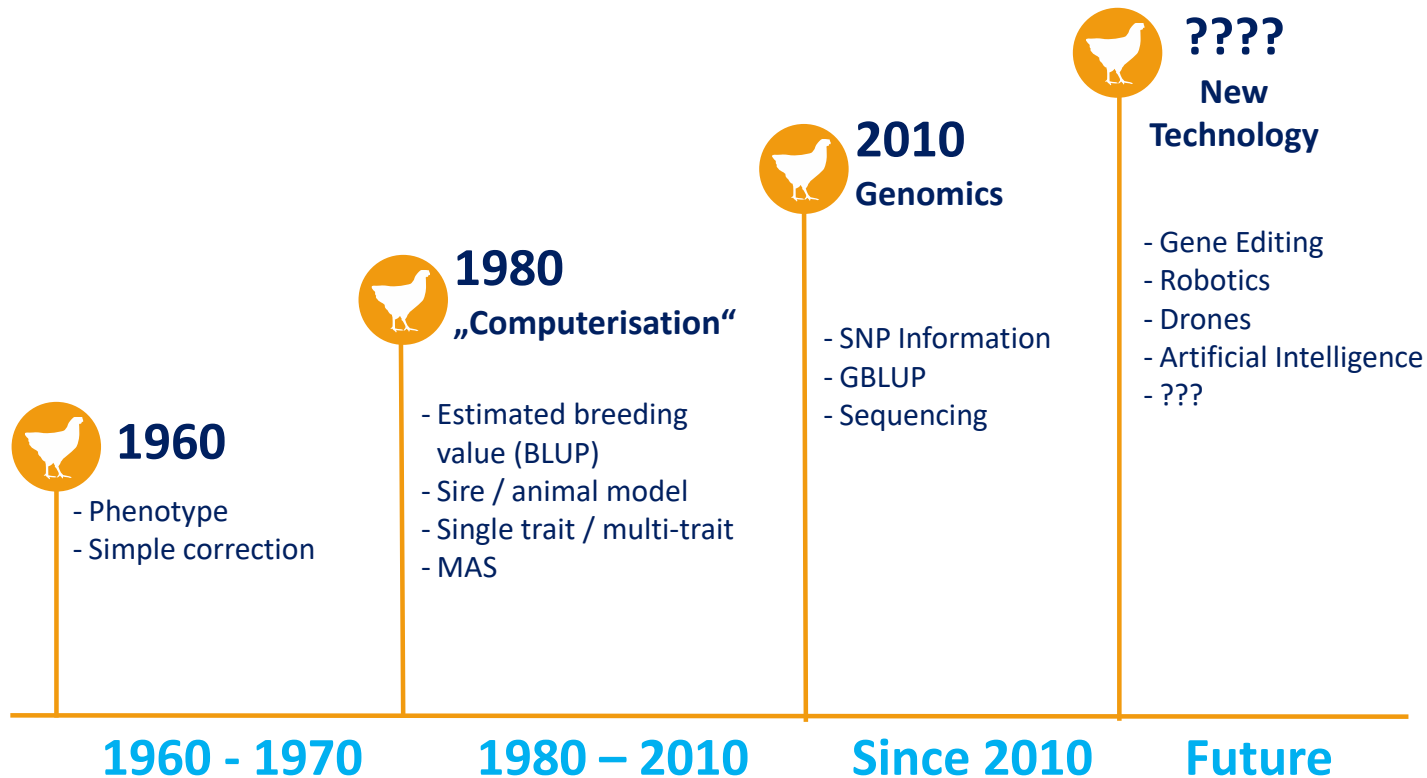
*The key to your profit!*



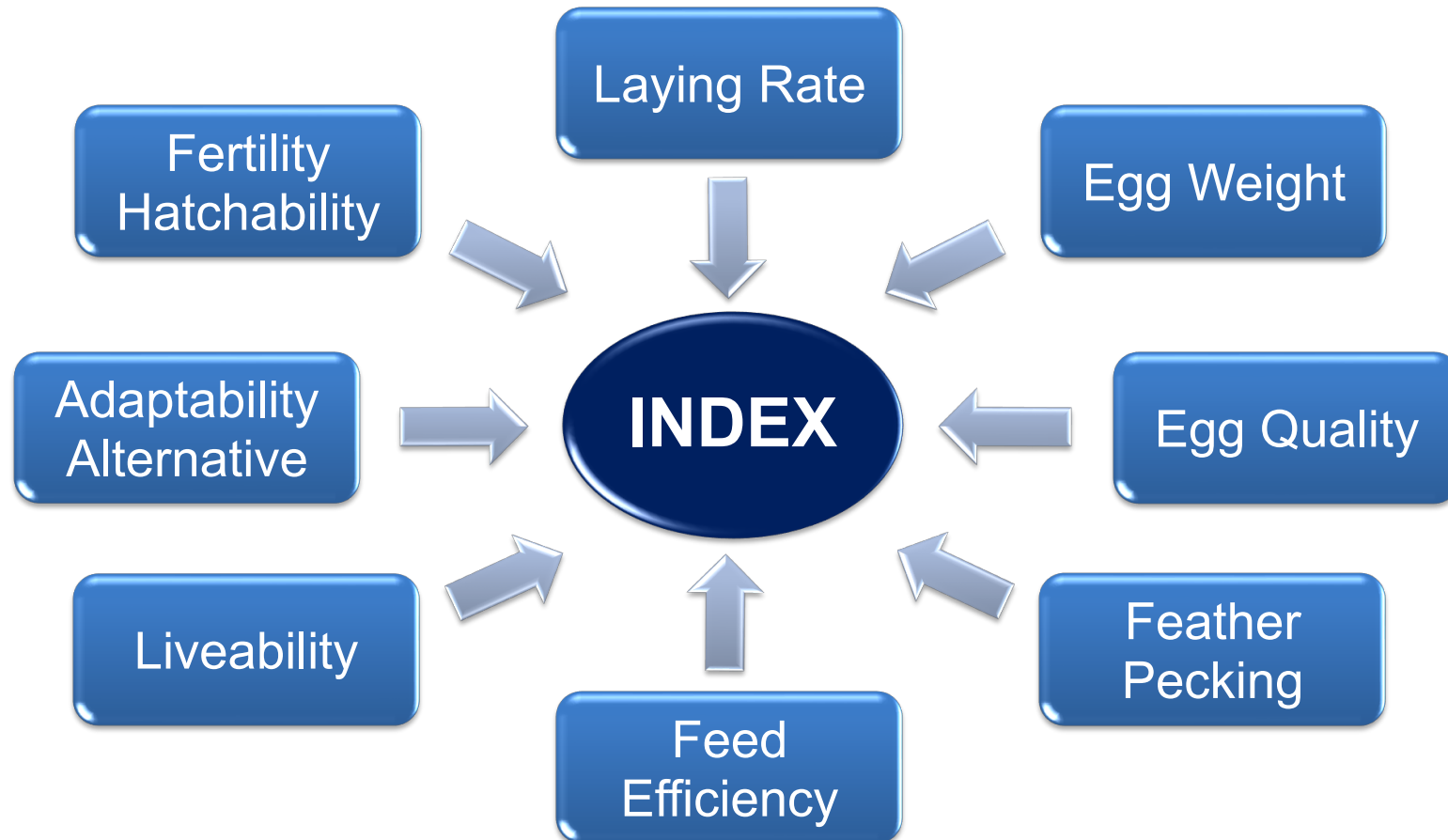
**Achieve the optimum performance with H&N birds**

**Dr. David Caverro Pintado**

# Evolution of Animal Breeding



# Selection for an overall index

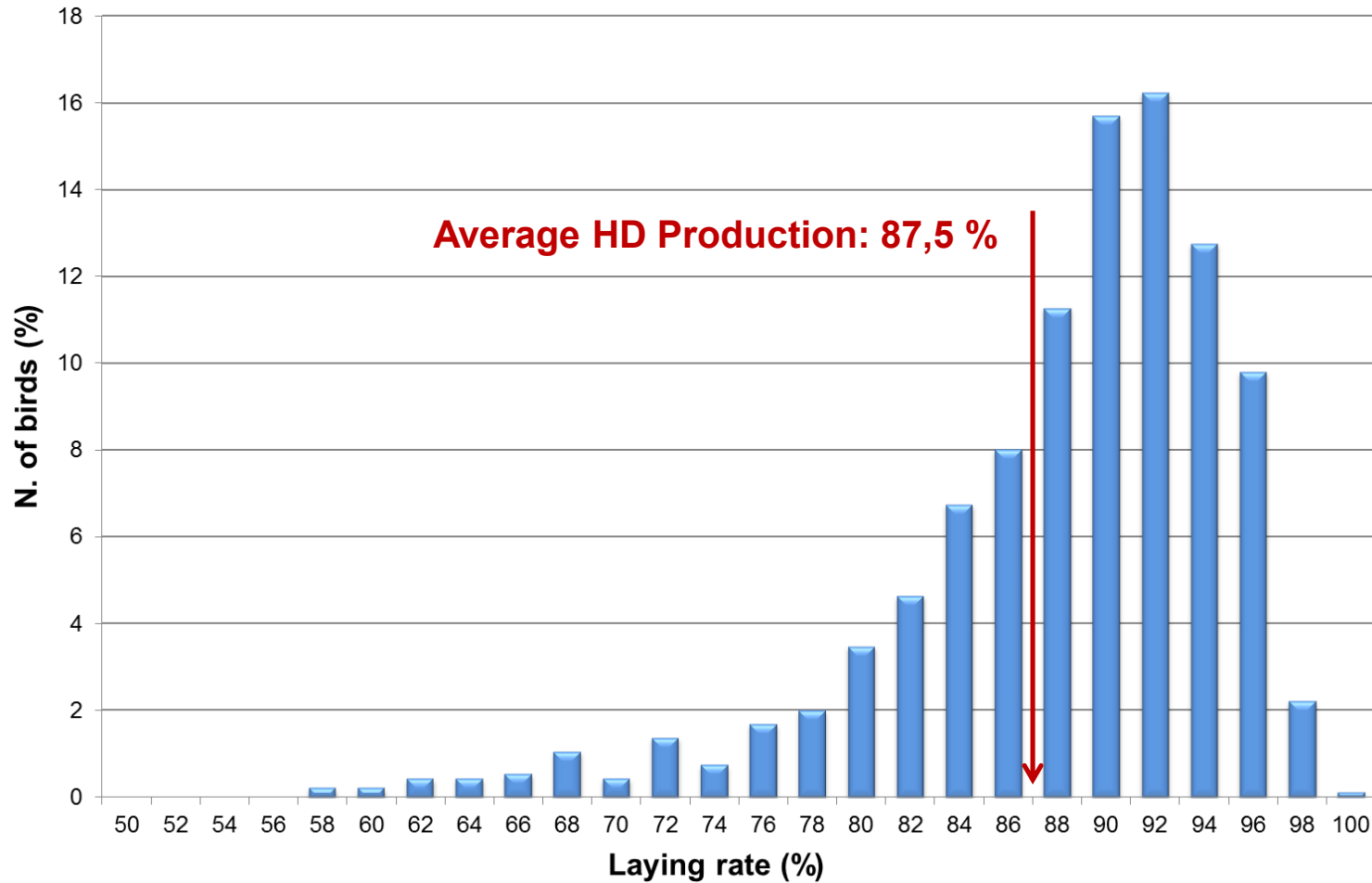


# Daily Egg Recording

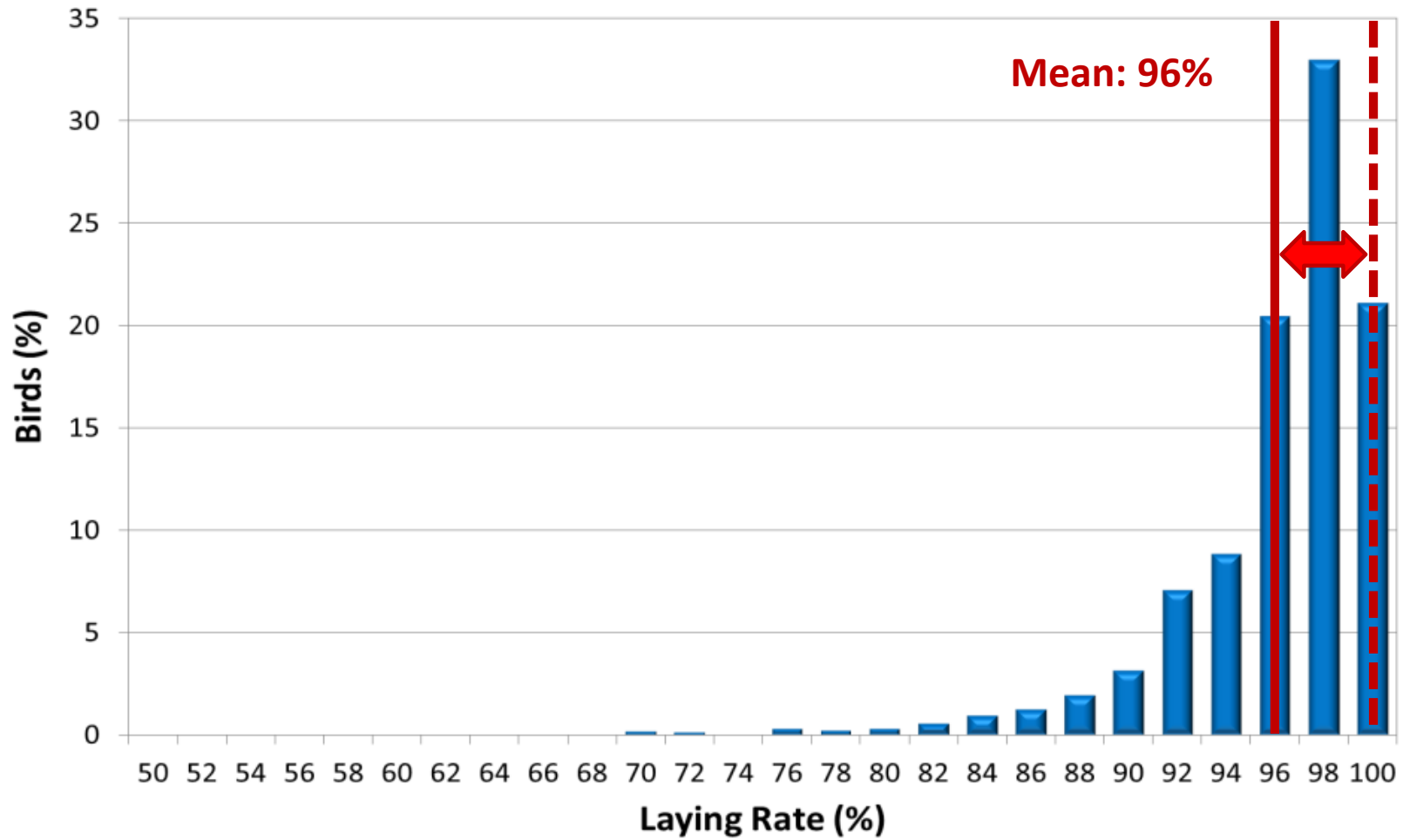


# Cumulative Laying Rate – 574 d production

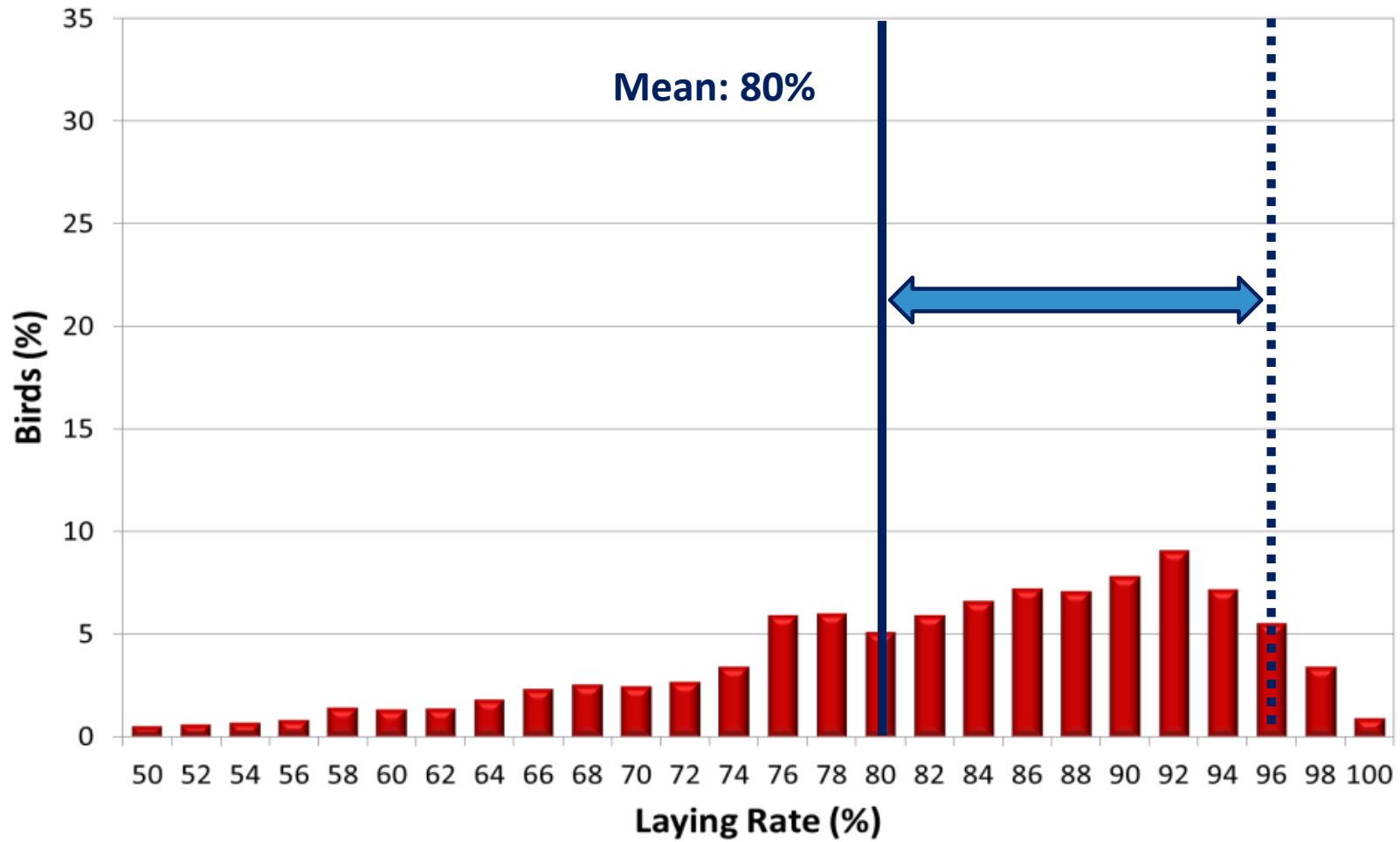
White egg pure-line



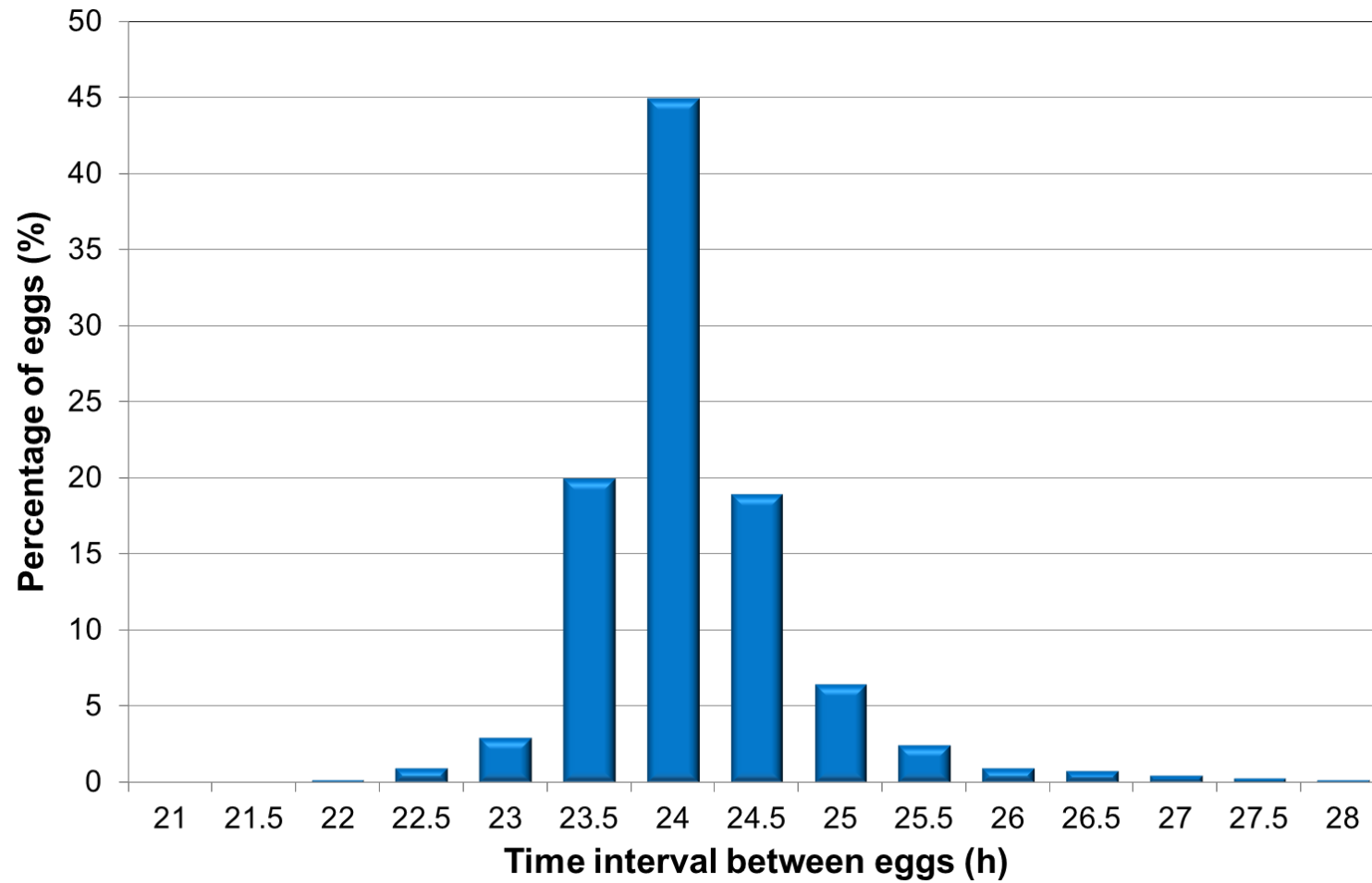
# Laying Rate – Peak of Production



# Laying Rate – End of Production

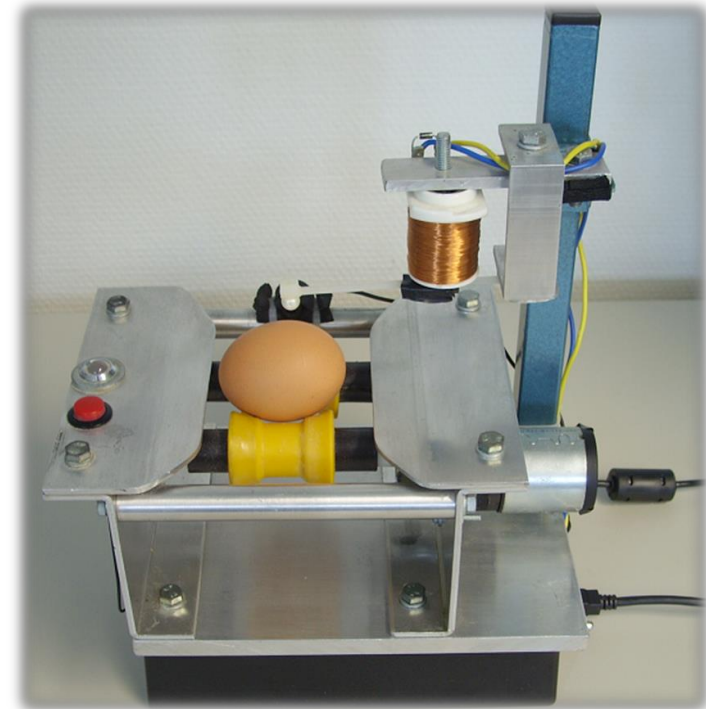


# Time Interval between 2 ovopositions





# Better eggshell quality



Every day a saleable egg with an excellent shell!

# Rearing: An investment for the future

Not only Costs! - BW & Uniformity: The key for success!

Good  
Immune  
System

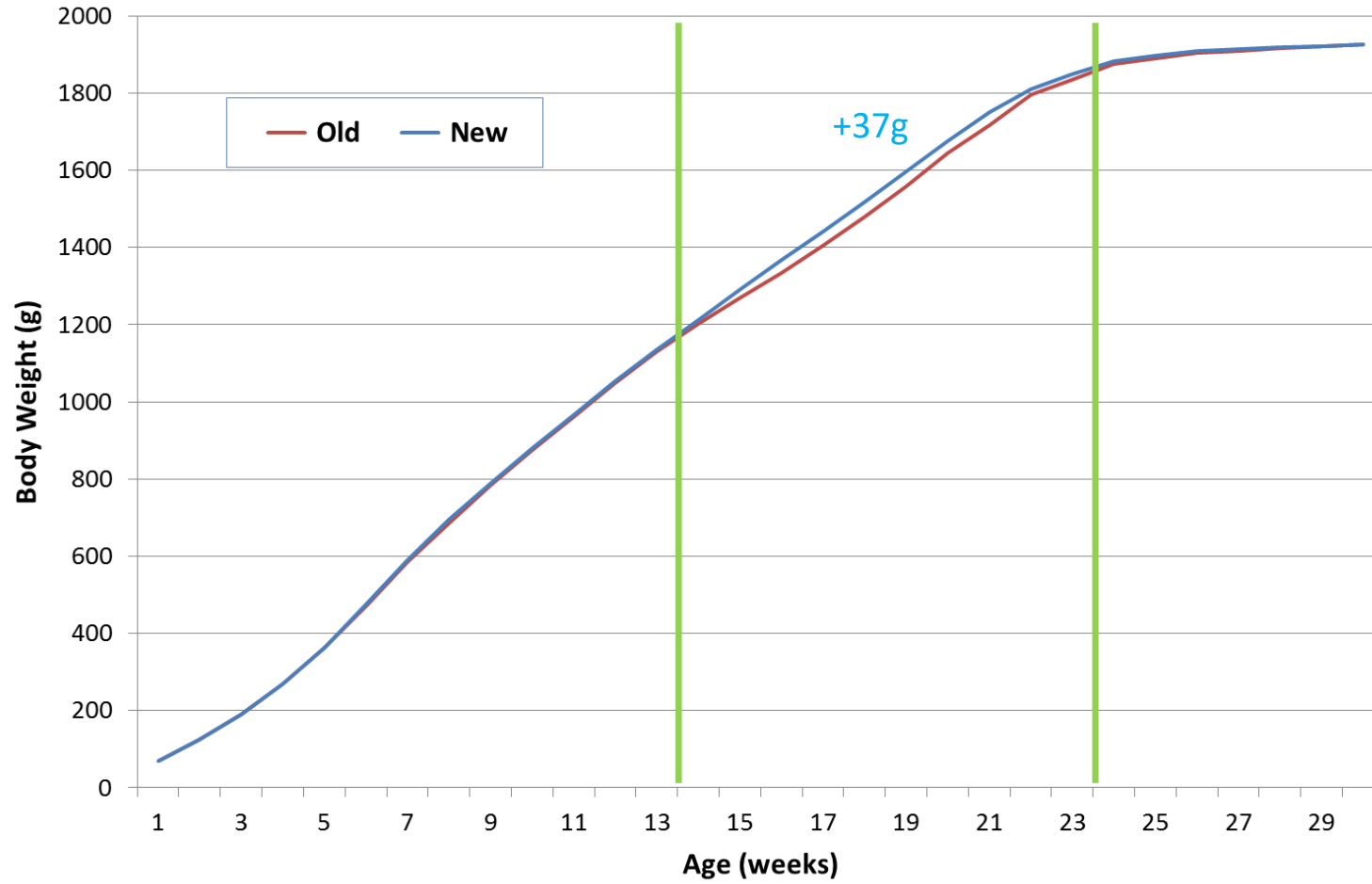


Feed  
Intake  
Capacity

## Good Body Weight Development & Uniformity:

- ✓ Good start in production
- ✓ Persistent egg mass production

# Body Weight Curve - BN



# General Recommendations for Commercials

- Light stimulation at 17 weeks
- Minimum Body Weight for first stimulation:
  - 1,400 g Brown
  - 1,200 g White
  - ...Good Uniformity!
- Feed Consumption:
  - 80 g or more at 17-18 weeks
  - 100 g as fast as possible

# Egg Weight



## Influencing Factors:

- Light stimulation, Body Weight, Feed
- Genetic –  $h^2 \sim 0.6$

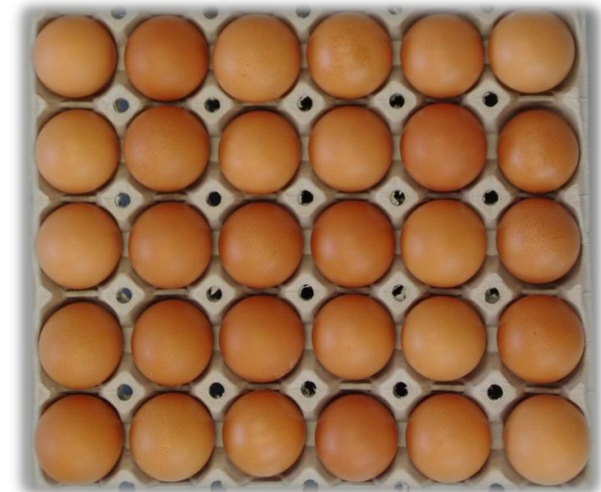
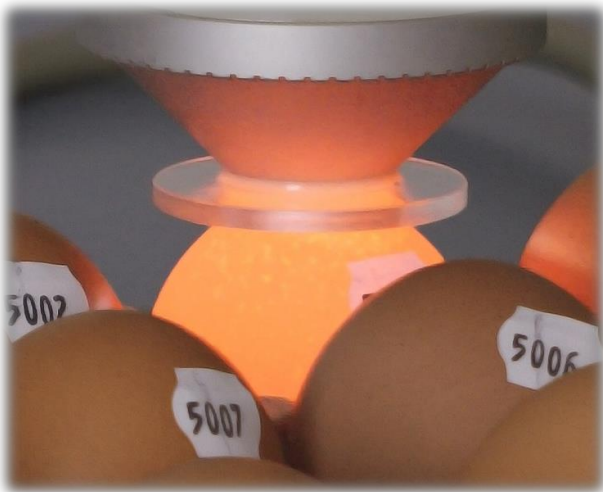
## Goal:

- Max. N. eggs in desired class
- Fast EW increase at the beginning
- Flat EW curve after 60 weeks



# Selection for Eggshell Colour

- A nice pure white or uniform brown shell
- Good shell colour until the end of production



# Feed efficiency

- Recording individual feed intake at peak production
- **Sufficient feed intake at greatest nutrient demand**
- Focus is not only in FCR, but mainly in IOFC
- **Feed intake according to production**
- No special high density diet – Flexible in raw material



# Feed efficiency



**20 kg Egg**



**Today**  
Feed Intake: 40 kg  
FCR 1:2.0



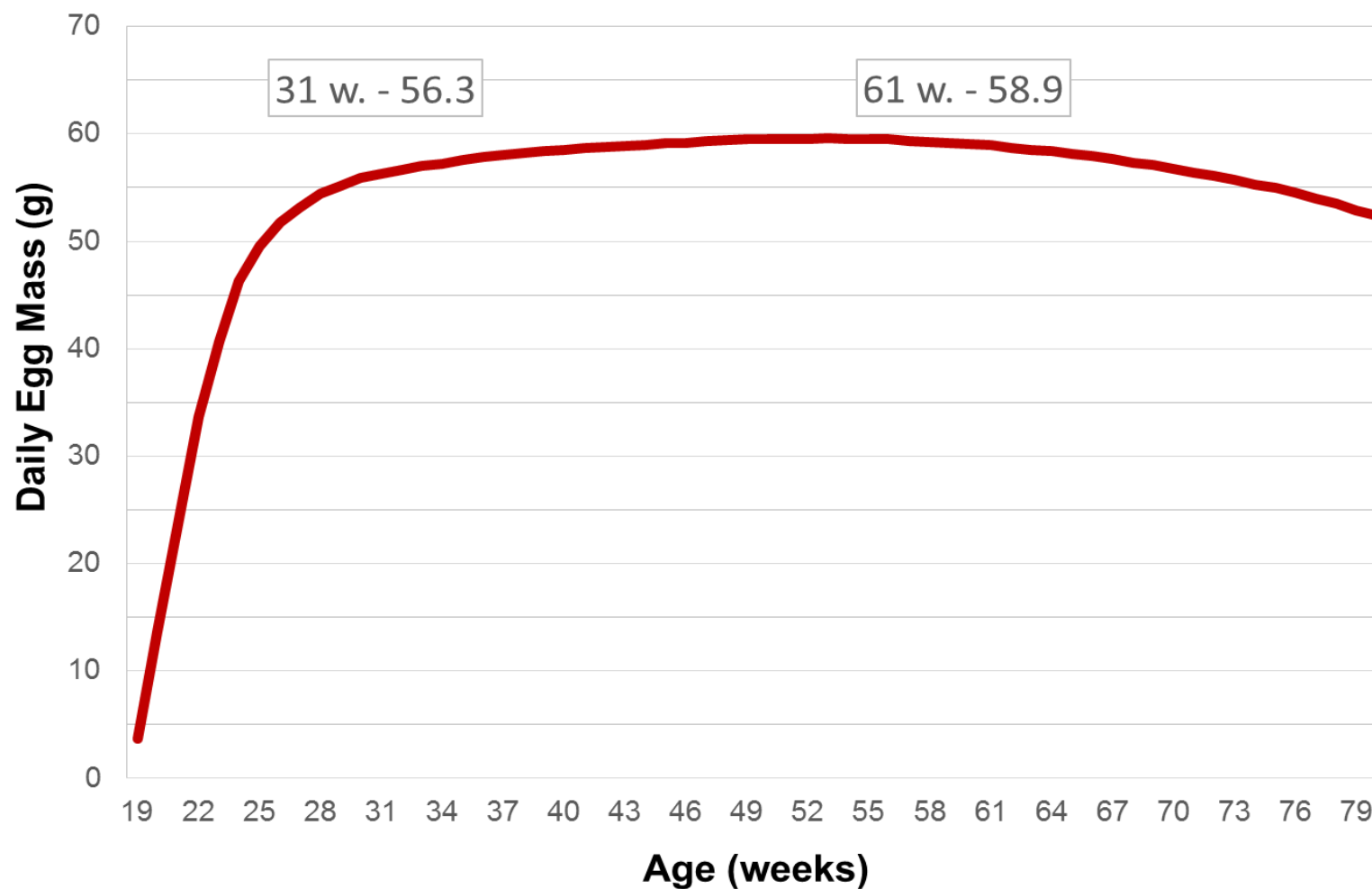
**15 years ago**  
Feed Intake: 50 kg  
FCR 1:2.5



**30 years ago**  
Feed Intake: 60 kg  
FCR 1:3.0



# Daily Egg Mass Production (Std. Nick Chick)



# Selection for better plumage condition

- Test relatives in breeding farms & field conditions
- **Selection for low mortality and good feather cover**
- Family cages (full-sibs or half-sibs)
- No beak treatment



**Heritability ~ 0,20 - 0,30**

# Final Conclusions

## Best Profit of H&N birds:

- ✓ Excellent N. of saleable eggs
- ✓ Outstanding egg quality
- ✓ Great feed efficiency (IOFC)
- ✓ Good adaptability worldwide

## Management Considerations

- Good rearing – BW & Uniformity + Training Feed Intake
- Feeding based on Egg Mass Production

**Thank you very much for your attention!**

