

## OBJECTIVES:

- 1 To determine why this kind of food is created
- 2 To prove what are the most used techniques
- 3 To observe metabolic and physiological changes
- 4 To examine problems and advantages associated with their elaboration, production or commercialization
- 5 To demonstrate the ethical problems that happens in society

## Oryza sativa. Human Lysozyme: Ventria Bioscience

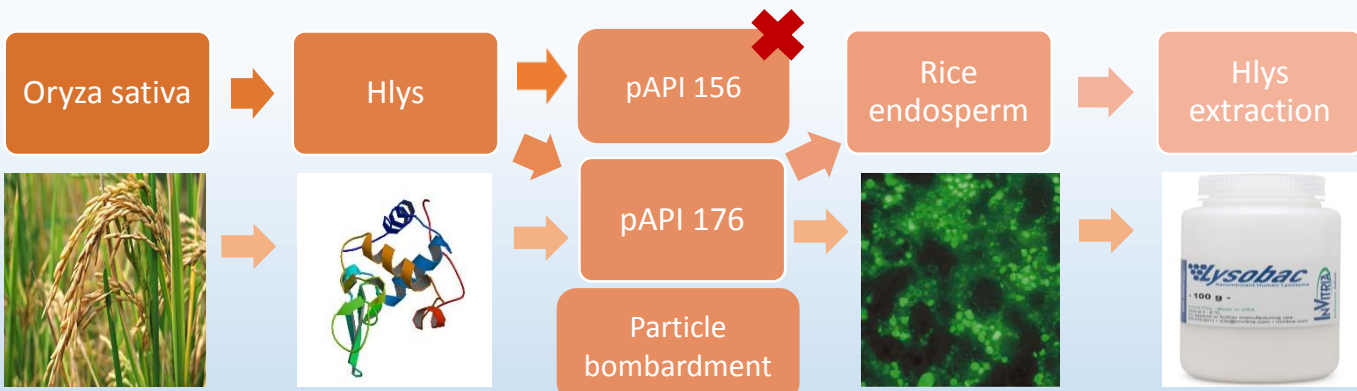


Figure 1: Rice: *Oryza sativa* [1]

Figure 2: Human lysozyme [2]

Figure 3: Human Lysozyme (Fluorescent Green) in rice endosperm [3]

Figure 4: Recombinant Human lysozyme poder [4]

## CONCLUSIONS:

- 1 These products are created to satisfy the current needs of demand in their respective sectors
- 2 The techniques are different depending on the food which is treating (animal or vegetal)
- 3 There are several changes both in metabolic and physiological ambits
- 4 Companies have more problems than advantages in the elaboration, production and commercialization of this products
- 5 The ethical problems related to transgenic foods are so many. Some independent public doesn't have the correct information about this products due to the information that national press publish to society, among others

## Salmo salar. GH: AquaAdvantage salmon



Figure 5: Real comparison between AquaAdvantage salmon (bigger size) and non transgenic salmon (smaller size) [5]

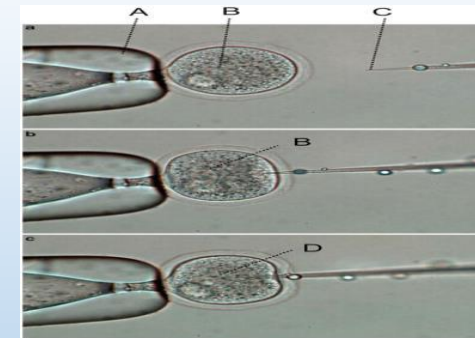
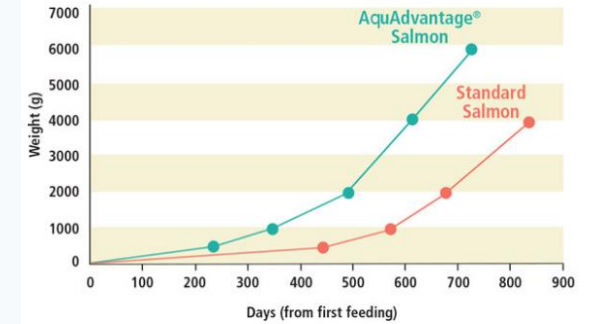


Figure 7: Pronuclear microinjection. A: Micropipette maintains the zygote B: Fertilized pronucleus C: Microinjection needle D: Expansion of nuclear envelope → Embryo succesfully micro-injected [6]

Figure 8: Graphic comparison (Weight/Days) between Aqua salmon Advantage with non-transgenic Atlantic salmon during the growth stage [5]

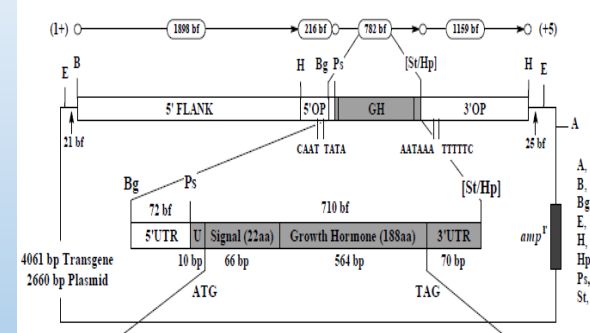


Figure 6: Physical description of the opAFP-GHC2 AquAdvantage Construct [7]

## REFERENCES:

- 1 Alvarez, K (2016). Arroz (*Oryza sativa*).
- 2 Muraki, M., Harata, K (1996). Origin of Carbohydrate Recognition Specificity of Human Lysozyme Revealed by Affinity Labeling
- 3 Yang, D., Guo, F., Liu, B., Huang, N., & Watkins, S. C. (2003). Expression and localization of human lysozyme in the endosperm of transgenic rice.
- 4 Lysobac (2020). Recombinant Human lysozyme powder.
- 5 AquaBounty Inc. (2020). Growth performance (Market size). Technology. Images.
- 6 Liu, C., Xie, W., Gui, C., & Du, Y. (2013). Pronuclear microinjection and oviduct transfer procedures for transgenic mouse production.
- 7 Center for Veterinary Medicine: US Food and Drug Administration (FDA) (2010). Environmental Assessment for AquaAdvantage Salmon. An Atlantic salmon (*Salmo salar* L.) bearing a single copy of the stably integrated  $\alpha$ -form of the opAFP-GHC2 gene construct at the  $\alpha$ -locus in the EO-1 $\alpha$  line, AquaBounty Inc. Public Display.