

Would you be willing to provide a brief recorded video or audio presentation to be shared with this team that addresses the following?

- 1) Please introduce yourself and your company.

Hendrix genetics is an international multi-species animal breeding and genetics company with activities in pig, traditional poultry, layer chickens, turkeys and aquaculture production. Our primary contact with the USDA is through the aquaculture division, specifically Troutlodge, the world leader in supplying improved rainbow trout seed stock for aquaculture production. In addition to trout, Hendrix genetics aquaculture also has breeding operations in Atlantic Salmon and Whiteleg shrimp.

- 2) What it is that you wish you could do, but just cannot do today due to cost or lack of technology?

- A) Development of technology for production of sterile animals. Several technologies are emerging in this field, however they face regulatory challenges and costs are high.
- B) Development of technology allowing accurate and easy measurement of individual feed intake in fish species.

- 3) What is/are the biggest current and 10-year challenge(s) to your industry that changing traits in your animals might be able to address?

- A) Production efficiency and resource utilization. As the demand for animal protein grows, the resources needed to increased production will also grow. This requires changes in traits associated with resource utilization and technology to measure them at individual level (Feed conversion, feed uptake, space resources, and ability to utilize alternative feed sources).
- B) Resistance to pathogens. This is a continual challenge as current pathogens evolve, and new pathogens emerge. Research leading to the development of innate immunity and general robustness related traits are required.

- 4) Are there opportunities between different segments of the industry? For example, something that does not fall within the wheelhouse of the breed association/company or the meat industry (expand to any topic one can think of), but would be very beneficial for both industries?

Opportunities exist to educate the public about animal production and the potential for use of technology in the field. End consumers can ultimately have a large influence on the direction and objectives, and limitations of a breeding company. Often times, the consumer is relatively uninformed about the process and benefits of animal production and technologies used for improvements. Technology exists for significant advancements in animal production, however, they face many regulatory challenges and potentially negative public perceptions. Research and communication devoted to understanding the risks and benefits of using farming methods and technology, leading to clear regulatory policies and a well-informed public would be beneficial

for the industry and eventually the end consumer. Examples of technology use include gene editing for sterile fish, and other GMO technology.

5) Other insights?