

Swimming in the Gene Pool

By Reg P. Wydeven
September 18, 2010

As many people know, I'm a huge fan of 'Star Wars.' One of the best movies in the saga is 'Attack of the Clones,' named for the Grand Army of the Republic that was cloned from the skilled bounty hunter, Jango Fett, father of the legendary Boba Fett.

A clone trooper was genetically engineered and trained since birth to be the perfect warrior. Unlike the robotic droid army of the Confederacy of Independent Systems, clones possessed independent and creative thinking, making them far better suited than a robotic army to handle the unexpected turns of warfare.

In addition, because they were genetically identical, the clones' armor was truly one-size-fits-all. Plus, troopers lost in battle could donate organs to their injured brethren without the need for anti-rejection drugs.

While it takes nearly two decades for a normal human to reach adulthood, the clone troopers had accelerated growth, allowing them to be combat-ready in only ten years' time. Accordingly, the clone army ultimately defeated the droid army in the Clone Wars even though they were outnumbered 100 to 1 by their droid counterparts. Obviously, it's all in the genes.

Apparently, the U.S. Food and Drug Administration agrees. Later this month, the FDA is expected to decide whether to approve genetically engineered salmon for human consumption.

If the FDA approves the salmon, it will be the first genetically modified animal permitted by the food safety agency to be eaten. Eerily like the clone troopers from 'Star Wars,' Atlantic salmon are injected with growth hormones that accelerate their maturity level at nearly twice the rate of normal salmon, from 30 months to just 16 to 18. While they grow quicker, the salmon do not grow to be larger and they are indistinguishable from their conventional counterparts.

The Attack of the Salmon is backed by Aquabounty Technologies, a biotechnology company headquartered outside of Boston. The goal of AT is to improve productivity in commercial aquaculture, which it claims is an \$86 billion industry and the fastest growing segment of the worldwide food industry. The company intends to use biotechnology "to ensure the availability of high quality seafood to meet global consumer demand."

In addition to salmon, AT uses its AquAdvantage to develop advanced-hybrid trout and tilapia that are also designed to grow faster than traditional fish. The company claims its biotechnology provides an economic benefit to farmers by reducing the traditional growing cycle of fish as well as enhancing the economic viability of inland operations, thereby diminishing the need for ocean pens. The genetically modified fish are also reproductively sterile, which eliminates the threat of interbreeding amongst themselves or with native fish, a major recent concern in dealing with fish escaping from farms.

The FDA released a statement earlier this month, concluding that, "the food from AquAdvantage Salmon... is as safe as food from conventional Atlantic salmon and that there is a reasonable certainty of no harm from the consumption of food from this animal." Critics counter, however, that the FDA has rushed the approval process and not properly assessed the safety of consuming the salmon. The agency will hold two public meetings later this week and issue a final decision shortly thereafter.

So while the performance-enhancing drug era for baseball is purportedly coming to an end, it's only just beginning for fish.

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