Building the Foundation for a Successful Pikeperch (Sander Sucioperca) Breeding Program

Breeding Traits

Figure 1: Scatterplot for identification of the most important traits for improvement according to the stakeholders opinion. X-axis: individual trait rating (1 = very unimportant, 7 = very important), Y-axis: number of nominations for a top-5 trait. Participants were 53 experts from the EPFC-Group (European Percid Fish Culture Group).

Huge future growth potential

Figure 2: Overview of the global pikeperch production from capture fishery and aquaculture (Source: FishStat Plus FAO, 2017)

Capture production decreased by more than half over the last decades. Aquaculture production has the chance to fill the deficit back to historical production levels or more! To realize this growth potential pike perch productivity has to increase! A breeding program offers a reliable way to sustainably increase productivity!

All-Female Population

Figure 3: Filet yield distribution between male and female pike perch (770 dph) N=102.

Evidence found for pike perch females growing faster implies that All-female populations would be beneficial
✓ Faster growth rate
✓ Less heterogenous growth than in mixed population
✓ No independant selection for males and females needed in a breeding program

Cannibalism

Does cannibalism type 2 can be reduced in the long turn by selecting for relatively small mouth gaps?
→ Remains to be tested

Figure 4: Right: Histogram of relative mouth length (% of standard length) in a mixed (females and males) pikeperch population after 770 days post hatch N=102. Left: Pictures of two sampled pikeperch heads with different mouth lengths.

Stefan Klenke
M.Sc. Agricultural Sciences
Contact: klenkes@ethz.ch

Dr. Paul-Daniel Sindilariu
Head of Aquaculture and Processing Tropenhaus Frutigen
Contact: p.sindilariu@oona-caviar.ch