



SELECTIVE BREEDING

- Selective breeding is a process used to develop improved livestock with desirable characteristics. Breeders select two parents that have beneficial traits that are then reproduced in the offspring.
- Huon has been selectively breeding salmon since 2002 when the first mass-selection of fish took place. Fish were selected based on a natural resistance to amoebic gill disease (AGD).
- Huon selects for desirable traits including better growth, resistance to AGD, later sexual maturation and flesh lipid and colour levels leading to better flesh quality.
- Selective breeding is very common in agriculture and it is a safe process.

BREEDING SALMON

The 2002 broodstock were carefully selected from a pen of unbathed fish (bathing fish in freshwater treats AGD) that showed a resistance to AGD infection. Their progeny were put to sea the following year and required 1-2 fewer baths during their lifecycle—these early results validated the need for an ongoing selective breeding program.

Additional mass selection of broodstock continued until 2006, when a family-based breeding program was set up in collaboration with the other major industry players and the Commonwealth Scientific and Industrial Research Organisation (CSIRO).

Since the founder populations were recruited in 2004, 2005 and 2006, there has been a steady increase in genetic gain where growth potential and amoeba resistance have improved by roughly two to three per cent per year. These results are as good as any other salmon breeding program in the world.

To further increase genetic gains, in 2020, Huon began preserving milt from the best males so that it could be used at any time of the year. The milt from one male can fertilise the eggs from 250 females so it has the potential to accelerate the breeding program's success.

BREEDING TROUT

In 2021, Huon will commence a selective breeding program for Ocean Trout. This program is based on the same principles of the salmon breeding program which will see fish genetically sequenced and grouped into breeding groups. Genotyping also allows Huon to identify breeding options that minimise the potential for any further inbreeding, while maximising for desirable traits including good growth and flesh quality.

The first selectively bred Ocean Trout will be put to sea in Macquarie Harbour in 2022.

