

October - December 2016 - SPATnz

Executive Summary

SPATnz



Summary of progress during this quarter

One of the greatest challenges in the SPATnz project is to produce batches of larvae year-round. Mussels are naturally seasonal, and the technical challenges involved make it all the more difficult to consistently rear these highly sensitive larvae. We've been steadily improving our techniques and technology, and it is gratifying to see consistency improving. The last three larvae batches have been our biggest to date.

We scheduled a one month break in hatchery operations this quarter to install infrastructure required to scale up our production trials. Various improvements were made to the design as part of our continuous improvement process, and tanks will be added progressively over coming months as we scale up.

This quarter we were also busy planning our next selective breeding run. All the information on the performance of the selective breeding mussel families is held in a big database. The breeding potential of each available mussel family is calculated by a computer programme that looks not only at the performance of that family, but also its parents, grandparents and so on which makes the calculations more accurate. The breeding programme is showing good gains and no major tradeoffs. We reviewed the main selection index that we use and varied it to accentuate certain traits. We hope to establish a cohort of ~100 mussel families in the first quarter of 2017.

Key highlights and achievements

- Plumbing and services for scale-up were installed during a scheduled gap in production trials
- The three batches of larvae reared since the shut-down were all larger than any previous batches
- Settlement success for these batches was high, exceeding target levels

Upcoming

- Continue with fit-out within the existing hatchery
- Establish a cohort of ~100 families in early 2017
- Establish grow-out trials to compare performance of wild and hatchery mussels through farming and processing
- Begin attempts to find DNA markers associated with traits of interest

Investment

Investment period	Industry contribution	MPI Contribution	Total Investment
During this Quarter	\$0.33 M	\$0.33 M	\$0.66 M
Programme To Date	\$7.80 M	\$7.80 M	\$15.59 M

Left: Mussel settlement tanks. Right: Late stage swimming mussel larvae. Both larval rearing and settlement were very successful this quarter.

