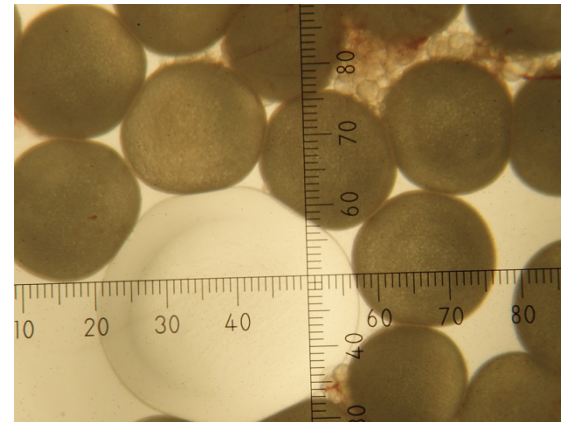# WP5
Reproduction and Genetics
Halibut

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1st Annual coordination meeting, Bari 4-6 Nov 2014

Objective

☐ **Improve fecundity and gamete quality in F1/F2 broodstock.**

Tasks

- **5.1 Documentation of reproductive performance in wild-captured vs cultured female Atlantic halibut**
- **5.2 GnRH implant therapy as a means to improve spawning performance**
- **5.3 Fecundity regulation**

5.1 Documentation of reproductive performance in wild-captured vs cultured female Atlantic halibut

- Ovulation intervals were documented in regular broodstock and F1 first time spawners
- Egg samples taken for steroid analysis
- Fertilization rates and batch volumes recorded

5.1 Documentation of reproductive performance in wild-captured vs cultured female Atlantic halibut

- F1 spawners performed poorly overall, with small egg batches and low fertilization.
- More data is needed to determine if performance improves with age.

5.2 GnRH implant therapy as a means to improve spawning performance

- To test the effect of GnRH implants, we performed a pilot experiment in February-March 2014.

- First-time spawning females (n=4) were implanted with 50 or 100 µg GnRH/kg BW.
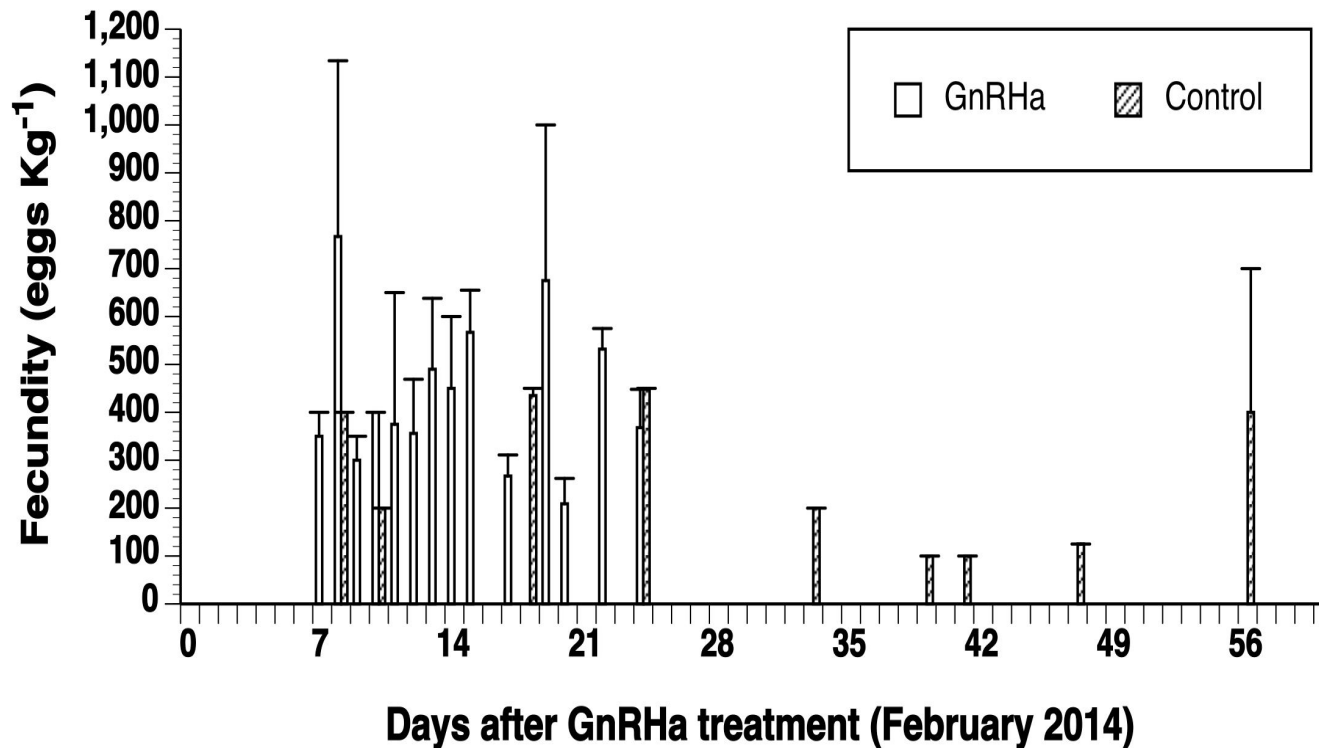
- Control females were sham-injected
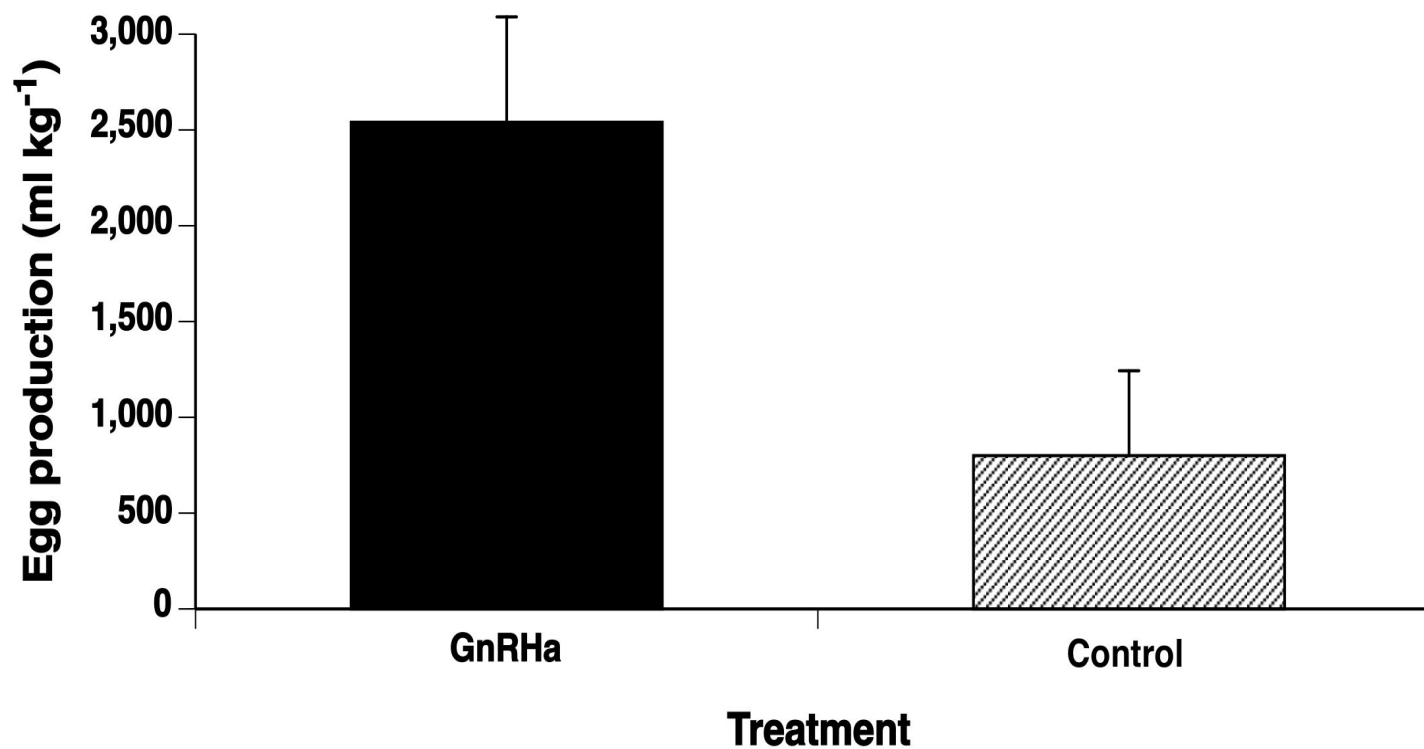
GnRH implant therapy pilot

- Biopsy samples were taken from the ovaries of all fish to determine stage of development before implantation
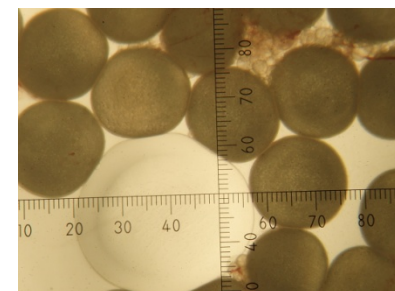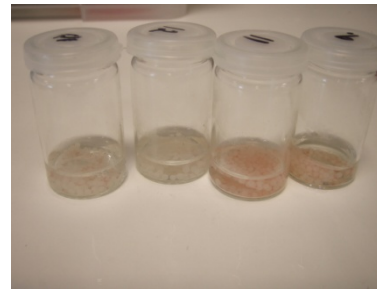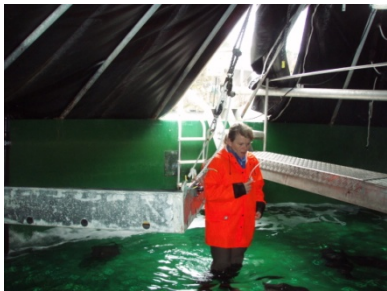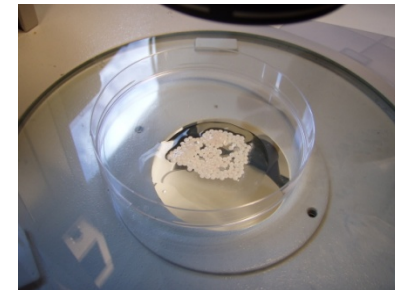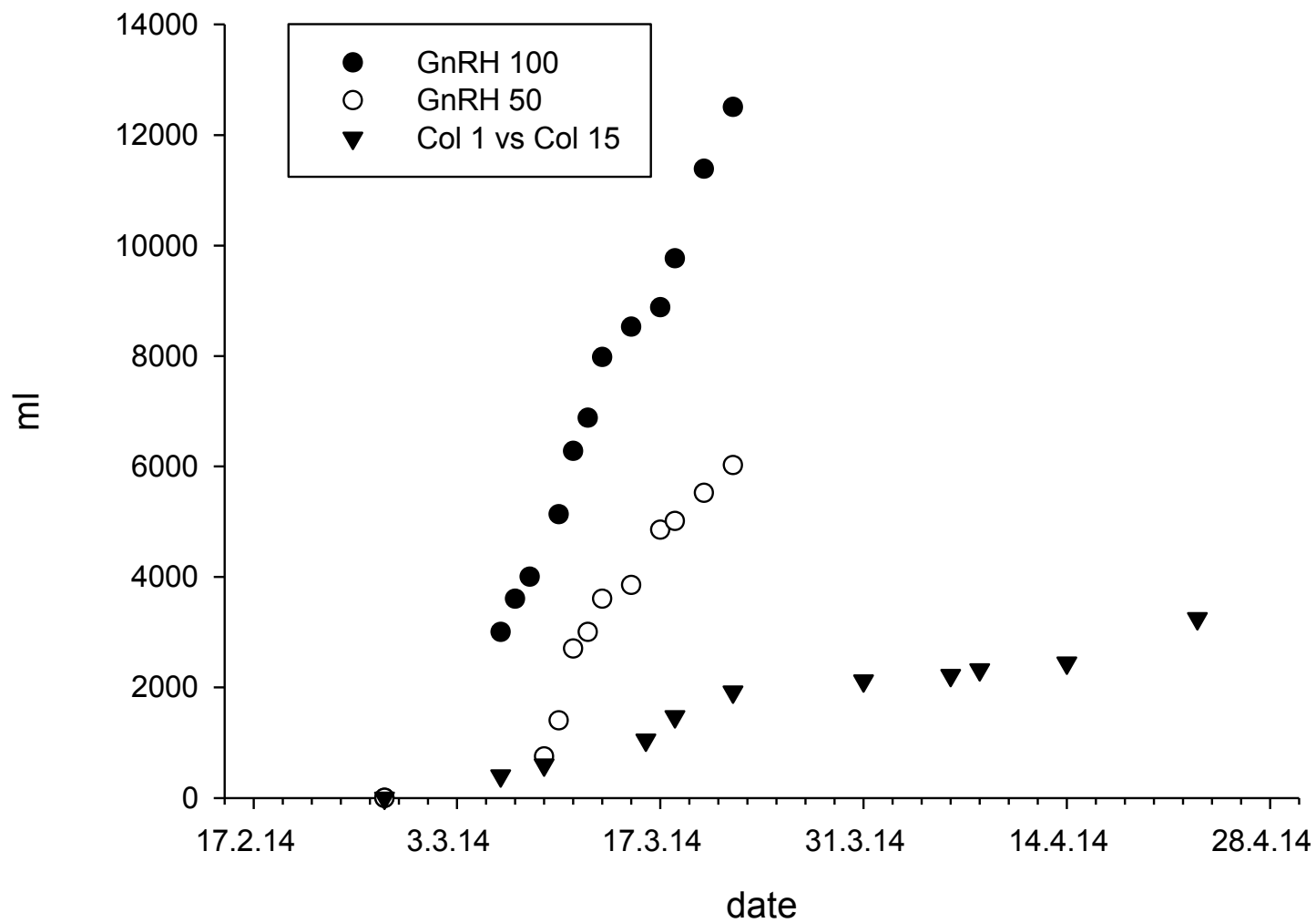
Fecundity / daily egg production

Total egg production

Cumulative realised fecundity (total egg production)

Preliminary conclusions

- GnRH treatment gave higher total fecundity and appeared to synchronise spawning.

- Effect on ovulatory rhythms unclear

- Fertilization rates varied between 0 and 70% but were generally low (<40%)

- Individual differences in egg viability/fertilization

THE END
Thank for your attention