

Fertilization of fish eggs and quality of off-spring

Sequential fertilization

A common practice used to ensure high fertilization rate

A single batch of eggs is fertilized by sperm of several males

The rationality behind sequential fertilization is to make-up for chances of low quality sperm of contributing male

Risks and concerns

Possible dominance of given male(s) over others due to:

- Introduced before others
- Larger volumes than others
- More active sperm compared to others

All of the above lead to the reduction of the effective breeding number (N_e) and hence increases inbreeding

Recommended practice towards a proper genetic management:

Divide each spawn into –almost- equal portions

Each portion of eggs is fertilized by sperm of a single male

Pool fertilized portions of eggs afterwards