AQUI-S®

using AQUI-S® for

BROODSTOCK MGMT

BROODSTOCK MANAGEMENT

Careful handling of broodstock is highly important. Female broodfish ready for spawning are in a particularly delicate condition due to a lot of hormonal activity occuring. There are gonadotropins being produced to mature the reproductive gonads and steroids to mature the gametes that cause the secondary sex characteristics. Futhermore, in salmon there are many other hormones handling the transition from seawater to freshwater.

With all of this hormonal activity it is important that physiological stress is kept to a minimum. When female fish are stressed or injured, they may undergo rapid physiological changes that can result in the breakdown (resorption) of the eggs in the ovary or production of poor quality eggs. The stress hormone cortisol, is known to shutdown the reproductive process and can also serve to repress the immune system if the stress is perpetuated. Furthermore, damage to the mucus layer, scales and skin of the fish can result in infection. It also causes excessive uptake of water by freshwater fish or loss of water from marine species (osmotic stress).

Clearly it is important to keep broodstock handling to an absolute minimum. However, realistically broodstock need to be handled many times before they are spawned. Gentleness when handling fish through the use of AQUI-S® is of the upmost importance to prevent physical injury and physiological stress.

HANDLING BROODFISH USING AQUI-S®

It is usually the process of capturing the animal which causes a stress response. In order to maximise the benefit of using AQUI-S® we recommend that fish are carefully crowded using low stress handling techniques and then sedated. Once fish are handleable, showing no response to being removed from the water, handling procedures such as hormone injection, transportation and egg stripping can be conducted.

Sedated Atlantic salmon broodstock being handled

EGG STRIPPING BROODFISH

Research has shown that sedating rainbow trout (Onchorhynchus mykiss) broodstock with AQUI-S® does not compromise sperm motility and egg survivability. It was concluded that AQUI-S® is regarded as the ideal sedative for use in handling broodstock during egg removal procedures.

Sedated rainbow trout being egg stripped

TRANSPORTING BROODFISH

Fish crowded into a transport tank can rapidly become stressed due to physical injury and deteriorating water quality. However the most stressful aspect of broodstock transport can be the capturing procedure. We recommend lightly sedating fish prior to removal from their holding tank. Then transferring fish to the transport tank which should contain a concentration of AQUI-S® that keeps fish lightly sedated during transport.

Sedated pink mao mao receiving an injection

INJECTING BROODFISH

While injecting the fish, every effort must be made to minimise stress and injury. Sedating fish during this procedure will eliminate any risk of squeezing or forcefully handling the fish. It is unnecessary to remove the fish from the water when giving injections. Once handleable, fish can be lightly restrained in a net or firm hand.

Unsedated and stressed trout being loaded into a transport truck

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