

Development of a protocol to produce triploid tambaqui *Colossoma macropomum* with the use of pressure shock in fertilized eggs.**Autor(es):**

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Resumo do Tema:

Food security is the main challenge for the protein industry, as the world's population continues to grow at an accelerated rate. Aiming at developing a new technology to increase native fish-farming production in South America, here we tested different combinations of timing post fertilization and duration of a 8000 psi pressure shock to establish an efficient protocol for inducing triploidy in tambaqui. For this, two experiments were carried out: first, newly fertilized eggs were subjected to a pressure of 8000 psi for 120 seconds, starting at different times post-fertilization (T1 - 60", T2 - 90", T3 - 120", T4 - 150", T5 180" and T6 - 300"). Based on the efficiency on inducing triploidy and on the fertilization and hatching rates, a second experiment was performed, testing two different moments to start the pressure (60" and 90" post fertilization), combined with two different shock lengths (60" and 90"), resulting in 4 treatments. We used two different females as blocks and all treatments were done in duplicates. For the second experiment, the fertilization and embryo survival rates were analyzed. Ploidy was evaluated by flow cytometry of larvae samples and by karyotype of juveniles. Treating 60"-post fertilized eggs with a 8000 psi pressure during 60" resulted in 56% of triploid fish. Treating 60"-post fertilized eggs during 90" or 90"-post fertilized eggs during either 60" or 90" produced from 94 to 100% triploid tambaqui, with fertilization index and embryo survival index similar to the control group.