

**Emily Schnoor**  
Senior Division Animal Sciences  
*The Answer Is in the Solution*

During the second trial the hypothesis was proven correct, Rainbow Trout eggs treated with 1.5 and 3.0 % salt, pHs of 4.4, 5.0 and 10, and with pH of 4.4 and 5.0 combined with 1.5 and 3.0 % salt solutions did not produce hatch rates equal to or better than trout eggs treated with 1666 mg/l formalin. While eggs treated with 1.5 % salt and eggs treated with pH of 4.4 and 5.0 combined with both 1.5 and 3.0% salt solution did increase hatch rates up to 65.7 %, eggs treated with formalin produced hatch rates averaging 80.0 %. Eyed eggs used during the first trial hatched before they succumb to fungus so green eggs were used during the second trial. Also the KYK Ionizer did not produce adequate pHs so distilled white vinegar was used to reduce the pH in the second trial. Fungus grew abundantly and hatch rates did not exceed 1.6 % on the eggs in the control group and for eggs in the pH 4.4 and 5.0 trials, indicating that pHs of 4.4 and 5.0 did not reduce fungus growth. The data does indicate that salt solutions and vinegar used to lower pH can effectively increase hatching rates which will benefit in American fish hatcheries by reducing employee exposure to the harmful effects of formalin. The greatest benefit may be to fish hatcheries in underdeveloped countries where technology and the availability of other chemicals are limited.