

June Suckers at the Fisheries Experiment Station

The year has been eventful for the June sucker program at the Fisheries Experiment Station (FES). We received eight new lots in the spring, provided fish for research on a variety of projects, started construction on an additional facility and have been preparing studies for when the new facility goes online.

We currently have 28 lots at the station from Utah State University (USU), Brigham Young University (BYU), the Provo River and the FES.

Table 1. June sucker lots

Year	# of Lots	Type of Lot	Source	Comments
1989	1		USU	Brood 1& 2*
1991	2		USU, BYU	Brood 1& 2*
1992	1		USU	Brood 1& 2*
1993	1		USU	Brood 1& 2*
1994	4	Family	USU	
1995	1	Family	USU	
1999	1	Family	Provo River	Light-trapped
2000	6	Family	Provo River	Received as eggs
	1	Family	Provo River	Light-trapped
	1	Sib-lot**	Provo River	Received as eggs
2001	1	Family	FES	Brood-stock mating
	6	Family	Provo River	Received as eggs
	2	Sib-lot**	Provo River	Received as eggs

*Broods 1 & 2 combined to form 1 family lot

**Cross between hatchery fish and wild fish

Due to lack of space, the June suckers are found in two locations at the FES, the facility constructed in 1991 and in the wet lab located on the main station. The use of the wet lab is temporary until the new facility is operating. Lots from 1999 and 2000 were moved to the wet lab at the end of April to open up space for the 2001 lots. Lots from 2001 were moved into the wet lab at the end of September for space requirements and the availability of warmer water at 66 degrees Fahrenheit (F) compared to 60 degrees F. The lots were moved on to the main station after the fish health staff conducted the annual inspection certification.

The June suckers received in April and May 2001 were eggs from fish spawned at the Provo River. This year USU received all of the larval fish light trapped on the Provo River.

Effect of Iodine Treatment

Two lots of eggs were used to test the use of iodine for disinfection. Lot 010502SKJNPR03 was used in the first test. This lot was spawned over three days the second and third days of spawning produced eggs for use. Only 808 eggs were fertilized on the second day of spawning, the third day of spawning produced 5839 eggs. The eggs from the third spawn were split and 3391 of the

eggs were treated with iodine. The eggs were in 100 ppm of iodine for 10 minutes (a standard method for disinfecting trout eggs), after which the eggs were netted into an eyeing jar setup in a tank separate from the rest of the lot due to space. The control group eggs and the eggs from the second spawn were setup separately in two other eyeing jars. Seven days after fertilization the control group began eyeing up as expected and began hatching two days later. The treatment group hatched seven days after fertilization and began developing eyes the next day. Lot 010515SKJNPR04 was the second lot used to test the iodine. The lot was split in two with 2020 eggs in the control group and 4000 eggs in the treatment group. The eggs were treated with iodine with the same procedure as the previous lot. Seven days after fertilization, both the control group and the treatment group hatched prior to developing eyes. The lots that hatched prior to developing eyes were in the same trough; other lots were hatched in the same trough without hatching prior to eye development. The lots not treated with iodine experienced losses due to fungus whereas the treated lots did not have problems with fungus. The iodine decreased losses caused by fungus and with no known significantly negative impacts iodine will likely be used with additional testing in subsequent years.

Table 2. Survival of the June sucker 2001 year class

Lot #	# Eggs	# Fish @ Start*	% Hatch	# On Hand 12/1/01	% Survival After Start*	Comments
010424SKJNPR01	3308	1009	30.5%	300	29.7%	Fungus problems
010426SKJNPR02	1736	232	13.4%	165	71.1%	Majority lost to fungus.
010502SKJNPR03	6647	5655	85.1%	4860	85.9%	1/2 of the lot treated with iodine
010515SKJNPR04	6020	963	16.0%	126	13.1%	2/3 of the lot treated with iodine
010516SKJNPR05	35512	8164	23.0%	2151	26.3%	Fungus problems
010516SKJNPR06	14267	1741	12.2%	1160	66.6%	90% lost to fungus
010518SKJNPR07	1457	873	59.9%	356	40.8%	Sib-lot, Fungus problems
010518SKJNPR08	10869	997	9.2%	3	0.3%	Sib-lot, Fungus problems

*Start is considered first feeding

Transfers

Fish have been transferred from the FES for additional space and for various studies involving June suckers. In early April, fish from lot 000601SKJNPR07 were transferred to Wahweap due to space requirements. Through the summer, fish from this same lot from both FES and Wahweap were used in a graduate project for Utah State University being conducted by Kresta Davis-Butts at Mona Reservoir. They are also being used in a selenium study at Goshen Warm Springs, a potential site for an interim hatchery for June suckers. BYU researchers used fish from this year's egg take to compare morphological characteristics of hatchery versus wild raised fish.

New Facility Construction

Construction of the new June sucker facility began at the end of September and should finish in mid December. The facility consists of a 40' x 70' metal building (see photo) containing approximately 64 tanks, troughs and aquariums. A smaller building 7'x 7' will be used for quarantine, in particular the light-trapped larval fish from the Provo River. There will also be a head box housing the low-head oxygen unit manufactured by Water Management Technologies and a shelter for the liquid oxygen cylinders. The main building will have 15 troughs for feed and density studies allowing 5 treatments with 3 replicates per treatment. Twelve aquaria will be used for temperature studies and for culturing algae, rotifers, daphnia, brine shrimp and small lots of eggs and fish. Eight larger troughs will be used for hatching and raising new family lots. These lots will be transferred to three 88 ft³ tanks for grow out until transfer to an interim facility. There are twenty 36 ft³ circular tanks for holding family lots. Six 12 ft³ tanks will be used for fish that have been sorted for spawning and possibly for smaller lots.



Studies for 2002

Current plans are to start a feed study as soon as the tanks are set up. This study will run until fish are available to start another feed study that begins at the initial feeding. During the next few months, trials on the culture of rotifers and brine shrimp will be done to determine procedures for production prior to the feed study beginning in May. Studies on induced spawning using human chorionic gonadotropin (HCG) are in the plans for the spring.

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