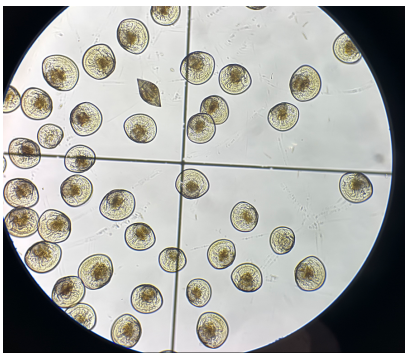


New Jersey Growers' Guide to Surfclam Culture

Version 2 - 2026

SPAWNING

- For New Jersey farmers, broodstock clams will ripen on the farm in early spring (Mar-May). Surfclams can also be spawned in the fall (Sept-Oct). Field-conditioned clams perform best, since artificial conditioning is challenging with this species.
- Spawning small ripe surfclams is easily done with thermal stimulation. A single 40 mm (1.6") female can produce 5 million eggs in a single spawn. Repeat spawns, using the same clams a week or two later, often produce additional high-quality eggs.
- Stock fertilize eggs at ≤ 30 per mL in gently aerated tanks filled with 1-µm filtered seawater.



LARVAL PRODUCTION

- Keep your larvae between 66-69˚F (19-21˚C) and at a salinity ~30 ppt. Reduce stocking density from 10 larvae per mL at 2 days post-fertilization (dpf) to 1 larva per mL at metamorphosis.
- Feed surfclam larvae a mixed diet of golden-brown microalgae at a steadily increasing ration (Table 1). Add diatoms to the larval diet as metamorphosis approaches (~2 weeks post-spawn) and continue with post-set clams.
- Larvae typically set in 21 days but can reach competency as early as 16 dpf. Pediveliger larvae can be set in downwellers, similar to systems used for hard clams. Set surfclams onto 120 µm screens. The highest mortality during surfclam hatchery production occurs during the two weeks following metamorphosis, so take care to reduce any stress the clams may experience during this period. Ensure larvae are well fed prior to settlement.

Table 1. Surfclam larval and early juvenile feeding chart

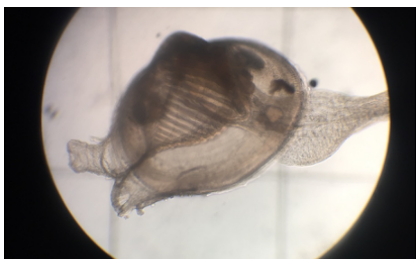
Days post-fertilization	*Daily feeding ration (K cells per mL)*
0	0
1	10
2	30
3-4	50
5-6	60
7-9	70
10-11	75
12-13	80
14-16	90
17-23	100
24-28	110
29-30	115
31-35	120
36-40	125
41-60	135

NURSERY PHASE

- Various nursery rearing methods can effectively produce commercial-scale quantities of surfclams, but flow rate, food availability, and temperature are important factors that influence gear efficiency. Performance improves at sites with more food and less turbidity.
- Upwellers using ambient seawater are the most effective systems for producing plantable seed (9-12 mm, R6-R8) in 3-4 months post-spawn. Maintain relatively low stocking densities and keep clams well size sorted for optimal growth (Table 2).
- Avoid high temperatures and low salinities in the nursery – surfs like it cool (<26˚C, <80˚F) and salty (25-35 ppt).

Table 2. Nursery Stocking Density Chart

Clams retained on mesh size (mm)	*Clams per cm²*	*Clams per 18" diameter silo*	*Nursery Gear*
0.120	85 - 100	150,000	Downwellers or Bell Siphon Systems
0.200	60 - 75	110,000	Downwellers or Bell Siphon Systems
0.500	20 - 45	55,000	Upwellers or Raceways
1.5	10 - 15	20,000	Upwellers or Raceways
2	5 - 8	10,000	Upwellers or Raceways
4	1.75 - 3	4,000	Upwellers or Raceways
8	0.75 - 1	1,500	Upwellers or Raceways



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Sea Grant NEW JERSEY SEA GRANT CONSORTIUM

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We are grateful to our partner farmers who provided farm space, assistance, and input on this project, and to the Rutgers University faculty, staff, and students who contributed to this work. Photo credits: F. Yin & M. Acquafredda. This publication is the result of work sponsored by New Jersey Sea Grant with funds from the National Oceanic and Atmospheric Administration (NOAA) Office of Sea Grant, U.S. Department of Commerce, NOAA grant #NA14OAR4170085, and the New Jersey Sea Grant Consortium. The statements, findings, conclusions, and recommendations are those of the author(s) and do not necessarily reflect the views of New Jersey Sea Grant or the U. S. Dept. of Commerce. NJSG-19-946.

SITE SELECTION

- Choose an outplanting site that doesn't have too much silt. Sandy or somewhat hard bottoms are best.
- Avoid locations with prolonged warm water temperatures. Avoid spots that exceed 80˚F (26˚C) for more than 3 weeks. Surfclams also require sites that normally have a salinity above 28 ppt.
- Avoid intertidal sites where excessive heat, drying, or freezing can cause mortality.

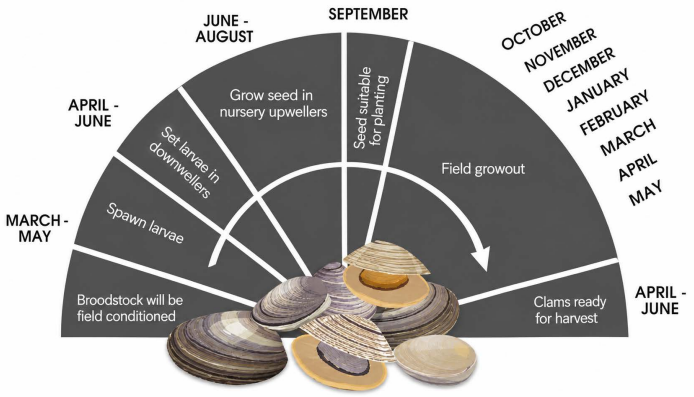




GROWOUT

- Surfclams naturally live buried in sediment, so they can be grown in the bottom using nylon mesh bags, screened boxes, or rigid plastic bags tethered with lines and moorings. Planting under conventional anti-predator screens, typically used for hard clams, can be challenging. Surfs are highly active and will find their way out from under these screens.
- Surfclams can be grown to 45 mm (1.75") without sediment. They can be reared to market-size in land-based upwellers or off-bottom systems, such as oysters bags and bottom cages. If using bottom cages, ensure they are located deep enough to avoid air exposure.
- Avoid placing surfclams in floating cages. The constant tumbling wave action will stunt their growth. Crabs and cownose rays find surfs very tasty, so design systems that exclude these predators.
- Cold water is not a problem. Surfs will continue growing throughout the winter, but the fastest growth occurs in spring.

SURFCLAM AQUACULTURE TIMETABLE



HARVEST

- If planting 9-12 mm seed in late summer or early fall, expect to harvest market-size surfclams (45 mm, 1.75") by the following spring.
- Surfclam quality is highest in the spring, but quality rapidly deteriorates in the summer.
- When harvesting surfclams grown in sediment, make sure to purge them before bringing them to market to avoid selling a product that contains grit.







SHELF LIFE

- Live surfclams have a shelf life of ~10 days.
- Surfclams will naturally gape more than hard clams. They act more like softshell clams or mussels. Educate your customers about this gaping behavior.
- Best handling is to keep surfs in a mesh bag that is wrapped in a damp towel, or atop well-drained ice. Never let surfs sit in freshwater. It will surely kill them.



Mortality after 10 days. In these experiments, clams (N=30 per group) had an average shell length of 52 mm (2") and were kept in refrigeration at 5.5˚C and 92% humidity. Ice was replaced daily in that treatment.



MARKETS

- Local chefs and retail consumers have shown interest in this product, often marketed as butterclams or petite surfclams.
- The flavor is buttery, the texture has a nice chew, and the appearance is distinct from hard clams. These traits could provide a market advantage.
- Surfclams are active at cold temperatures, so a half-shell market would need to tolerate clams that may move.
- Surfclams can be substituted in any recipe that calls for littleneck clams. They are delicious when used for linguine and clam sauce or green curry. Try surfclams baked with bacon and seasoned bread crumbs, or simply steam surfclams with garlic, wine, and parsley.

