

- Solis, E.P., Onate, J.A., and Naguit, M.R.A. 1988. Growth of laboratory-reared giant clams under natural and laboratory conditions. In: Copland, J.W., and Lucas, J.S., ed., Giant clams in Asia and the Pacific. Canberra, ACIAR Monograph No. 9, 201-206.
- Southgate, P.C. 1988. Use of microencapsulated diets in the culture of giant clam larvae. In: Copland, J.W., and Lucas, J.S., ed., Giant clams in Asia and the Pacific. Canberra, ACIAR Monograph No. 9, 155-160.
- Southgate, P.C. 1990. Aspects of the nutrition of giant clams with emphasis on the development of an artificial microencapsulated diet. PhD Thesis, James Cook University of North Queensland, 290 p.
- Stephenson, A. 1934. The breeding of reef animals, Part II. Invertebrates other than corals. Scientific Report Great Barrier Reef Expedition, 1928-29, 3, 247-272.
- Sutton, D.C., and Muir, P.R. 1990. Bacterial diseases in cultured tropical marine invertebrates in Australia. In: Proceedings of the Fifth International Colloquium on Invertebrate Pathology and Microbial Control. Adelaide, Society of Invertebrate Pathology, 405.
- Tisdell, C. 1989a. Market for giant clam shells: report on a survey of retailers and wholesalers in Southeast Queensland, Australia. Research Reports or Papers in Economics of Giant Clam Mariculture, No. 1.
- Tisdell, C. 1989b. Market for giant clams as aquarium specimens: report on a survey of retailers of supplies for saltwater aquariums. Southeast Queensland, Australia. Research Reports or Papers in Economics of Giant Clam Mariculture, No. 3.
- Tisdell, C., and Menz, K. 1988. Socioeconomic considerations in giant clam mariculture. In: Copland, J.W., and Lucas, J.S., ed., Giant clams in Asia and the Pacific. Canberra, ACIAR Monograph No. 9, 246-249.
- Tisdell, C.A., Lucas, J.S., and Thomas, W.R. 1990. An analysis of the cost of producing giant clam (*Tridacna gigas*) seed. Research Reports and Papers in Economics of Giant Clam Mariculture, no. 11, Department of Economics, University of Queensland, Australia.
- Ukeles, R. 1971. Nutritional requirements in shellfish culture. In: Proceedings of the Conference on Artificial Propagation of Commercially Valuable Shellfish, October 22-23, 1969. College of Marine Studies, University of Delaware, Newark, Delaware.
- Wada, S. 1954. Spawning of tridacnid clams. Japan Journal of Zoology, 11, 273-285.
- Walne, P.R. 1974. Culture of bivalve molluscs. Fishing News (Books) Ltd., 23 Rosemount Ave., West Byfleet, Surrey, England, 173 p.
- Wattanuchariya, S., and Panayoutou, T. 1982. The economics of aquaculture: the case of catfish in Thailand. In: Aquaculture Economics Research in Asia, Proceedings of a Workshop held in Singapore 2-5 June 1982, ICLARM, Manila.
- Wolf, P.H. 1979. Life cycle and ecology of *Martellia sydneyi* in the Australian oyster, *Crossostrea commercialis*. Marine Fisheries Review, 41, 70-72.

Appendix

Equipment needed to set up a hatchery and farm, estimated costs and sources of supply

Equipment description	Estimated cost ^a	Company name and address
Hemocytometer Improved Neubauer Ruling (Cat. No. 301032)	42.00	Selby Scientific PO Box 1263
Sedgewick Rafter Counters (Cat. No. 299635)	37.50	Milton Centre, Qld 4064 Ph. (07) 371 1566 Ph. (088) 177412 toll free Fax (07) 870 3769
Graduated pipettes		
1 mL (Glass — \$9.18)	12.53	
2 mL (Glass — \$9.18)	12.60	
5 mL (Glass — \$10.50)	13.13	
10 mL (Glass — \$11.22)	14.18	
Microscope — compound		or Weber Scientific Int. Ltd 40 Udney Park Road Teddington Middlesex TW11 9BG, U.K. Ph. 441977-6630
Model CHK-Olympus built-inlight source w/10x ocular and 4x,10x,40x objectives	795.00	
Binocular	630.00	
Monocular		
Microscope — dissecting		
Model VE31 — 10x ocular	265.00	
Model VE32 — 20x ocular		
Fixed 2x objective and 15x available		
Set of ocular pair	90.00	
pH Meter (Cat.No. HANI PICCOLO 2)	190.00	

^a Prices are in \$Aust. and, as far as possible, have been checked as correct at May 1992.

HATCHERY AND NURSERY CULTURE OF GIANT CLAMS

Equipment description	Estimated cost	Company name and address
Plastic Beakers		
250 mL (units of 6 — Cat. No. 221013)	4.90	See addresses on previous page
600 mL (units of 4 — Cat. No. 221017)	6.00	
1000 mL (units of 3 — Cat. No. 221019)	10.00	
2000 mL (units of 1 — Cat. No. 221021)	16.90	
Minimum/Maximum Thermometers (ZEAL P3060)	20.00	
Tissue Culture Plates 24 well (box 50) (can use instead of Sedgewick Rafter Counters)	58.00	Disposable Products P/L, 8 Willingdon Street, Archerfield Qld. 4108. Ph. (07) 274 2000 Fax (07) 274 1231
Clark Splasher Pools		
4.5 m dia. x 0.9 m ht. (Cat. No. 1536)	239.00	Clark Rubber, Unit 11, 41 Lysaght Street, Acacia Ridge Qld. 4110. Ph. (07) 345 9100 Fax (07) 345 9580
— liner only 4.5 m x 0.9 m	99.00	
— heavy duty liner (Cat.No.1548)	199.00	
3.05 m dia. x 0.9 m ht.	105.00	
— liner only 3.05 m x 0.9 m	59.00	
Spare plastic pool clips /each	0.35	
Patches	1.00	
Glue	2.75	
Dry Pool Chlorine		
40 kg drum	179.00	
10 kg drum	57.90	
Waterwick — 310 m roll	496.00	Hunter Irrigation P/L, Shop 20, Salamander Shopping Centre, Salmonder Bay NSW 2301. Ph. (049) 33 3111 Fax (049) 71 4193

Equipment description	Estimated cost	Company name and address
90 mm black polypipe (ridged) Grade 9 — 75m roll	628.12	Harvey Hose Supplies P/L, 1898 Ipswich Road, Rocklea Qld. 4106. Fax (07) 875 1427
Nylox thick black plastic mesh for 'lines', 'covered'		
— 30 m x 12 mm (87 piece)	190.81	
— 30 m x 40 mm x 60mm (87 piece)	133.20	
— 30 m x 25 mm (87 piece)	208.40	
— 30 m x 6 mm (86 piece)	208.40	
25 mL Adipoyl Chloride (Cat. No. A5377)	84.50	Phoenix Scientific, P.O. Box 208, Alderley Qld. 4051. Ph. (07) 3554944 Ph. (088) 77 7834 toll free Fax (07) 355 4998
25 g Thiamine Hydrochloride (Cat. No. T4625)	16.00	
25 g Chloramphenicol Crystalline (Cat. No. CO378)	42.60	
100 g Streptomycin Sulphate (Cat. No. S6501)	48.55	
1 g Serotonin (Cat. No. H7752)	28.85	
0–50 μ L Socorex Pipette (Cat. No. SOC-821-0050)	195.00	
50–200 μ L Socorex Pipette (Cat. No. SOC-821-0200)	195.00	
200–1000 μ L Socorex Pipette (Cat. No. SOC-821-1000)	195.00	
Pack (1000) Propypropylene Tips (Cat. No. TIP-1058)	28.00	
Pack (1000) Propypropylene Tips (Cat. No. TIP-1004)	32.00	
Pack (250) Propypropylene Tips (Cat. No. TIP-JUM)	37.00	
Plastic graduated cylinders		
— 50 mL (code 1078)	6.10	Rhone Poulenc Laboratory Products, 1/126–134 Fairbank Road, Clayton South, Vic. 3169. Ph. (03) 550 4666 Ph. (008) 33 9467 toll free Fax (03) 558 1544
— 100 mL (code 1079)	7.75	
— 500 mL (code 1081)	17.20	
Plastic Beakers		
— 1 L (code 1808)	7.55	
— 2 L (code 1809)	12.60	
— 3 L (code 1811)	24.90	
— 5 L (code 1812)	37.60	

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Equipment description	Estimated cost	Company name and address
Pasteur Pipettes (Borosilicate Glass)		Rhone Poulenc Laboratory Products See address on previous page
1 box (250) 146 mm (Cat. No. 72050/575)	22.05	
4 boxes of above or more	20.05	
1 box (250) 229 mm (Cat.No.72050/900)	29.50	
4 boxes of above or more	26.85	
Larval Depression Slides		
1 box single cavity	7.40	Lomb Scientific, P.O. Box 52, Banksia NSW. 2216. Ph. (02) 597 7333 Telex 21 656
1 box double cavity	10.50	
Oyster Mesh Rolls		The Cove' Oysters P/L., PMB 26, Oyster Cove, Via Williamtown NSW 2301. Ph. (049) 82 4832 Fax (049) 82 4436
6 x 6 mm (920 x 30 m) roll per metre	4.01	
above per roll	120.30	
12 x 12 mm (920 x 30 m) roll per metre	3.97	
above per roll	119.20	
20 x 20 mm (920 x 30 m) roll per metre	3.86	
above per roll	115.75	
Anti-fish net		
Oyster B.O.P. black (mesh dia. 19sq.) 2 m x 200 m - Code No. 693182	250.00	
Oyster B.O.P. black (mesh dia. 32sq.) 2 m x 200 m - Code No. 693304	250.00	
Nally Bins — No. 7	15.20	Nally Ltd., P.O. Box 122, Minto NSW. 2566. Ph. (02) 820 2222 Fax (02) 820 2227
Lids to suit	11.85	
Orange Lug Box (Product Code 65990)	31.40	

Equipment description	Estimated cost	Company name and address
1 roll (100 m) 7/0.50 building wire	44.00	Haymans Electrical, P.O. Box 1094, Brisbane Qld. 4001. Ph. (07) 369 8400 Fax (07) 369 3651
1 packet TY525MX cable ties	9.50	
1 metre grey conduit	1.40	
350 mm diameter upwellers	65.00	Plastic Fabrications P/L, 1092 Cambridge Road Cambridge Tas. 7170. Ph. (002) 48 5511 Fax (002) 48 5408
450 mm diameter upwellers	57.00	
1 mini coil rope	4.55	Local Boat Shop.
12" football float	3.44	
12" ball float	9.18	
6" polystyrene floats	2.40	
750 mL epoxy resin	30.00	
1kg Epigen Kit No. 503	48.57	Local Boat Shop.
Pressure Coupling 100 mm	17.11	Local Hardware Shop.
Pressure Reducing Bush 100 x 50 mm	11.52	
Pressure Reducing Bush 100 x 80 mm	12.06	
Pressure Reducing Coupling 50 x 25 mm	4.76	
Pressure Tee 25 mm	2.66	
Pressure Valve Socket 50 mm	5.08	
Pressure Faucet Adaptor 50 mm	6.80	
Pressure Elbow 25 mm	1.84	
Pressure Pipe (per metre)	2.02	

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Equipment description	Estimated cost	Company name and address
1 - 4'6" (135 cm) steel fence posts	3.48	Local Plumbing & Hardware Shop.
1 - 14" metal cutting-off wheel	10.62	
1/2" joiners	1.38	
1/2" poly tees	0.60	
1/2" poly caps	6.30	
25 mm class 12 PVC pipe	15.46	
25m m PVC elbows	1.89	
25 mm PVC caps	1.23	
25 mm PVC tees	2.16	
25 mm PVC sockets	1.49	
50 mm class 12 PVC pipe	40.97	
50 mm PVC elbows	4.54	
100 mm double junctions	14.15	
100 x 90 sewer junctions	9.21	
100 x 90 sewer bends	5.41	
100 mm level straights	9.21	
100 mm sewer pipe	35.25	
Cuno Zetapor Cartridge 0.2 μ	207.50	Local Chemical & Engineering Company.
Cuno Zetapor Cartridge 0.6 μ	135.00	
Cuno Zetapore 12 MPI	205.00	
Transparent Housing AP 11T	72.50	
1 μ micro wynd. cartridge (Code PPPY)	11.81	
10 μ cartridge (Code PPPC)	11.31	
1 kg natural gelcoat brush-waxed	9.00	Local Fibreglass Supplier etc.
1.5 kg olive green pigment	29.13	
500 mL hardner MEKP	12.96	
Rena 150 watt heaters	24.77	
Acetone (4 L)	15.80	
Brushes - 3"	5.00	
Airline Tubing 50 m	4.95	

Equipment description	Estimated cost	Company name and address
Cord Clamps x 24 (use with airline tubing)	1.66	Local Fibreglass Supplier etc.
Other fittings, i.e. t-pieces, connectors, end stop valves, crosses	< 2.00	
Air blower SD4M — 3 phase, 1.5 m (3)/min. capacity 1/2 m deep v-belt pulley drive for generator/engine	1330.00	CIG Transpower, P.O. Box 40, Archerfield Qld. 4108. Ph. (07) 212 4222 Fax (07) 277 8229
3 phase blower — 0.95 kW SN4N	1018.00	C'wealth Industrial Gases, P.O. Box 40, Archerfield Qld. 4108. Ph. (07) 212 4222 Fax (07) 277 8229
Flanges to suit air blower	60.00	
Grundfoss LP80-160/149, 5.5 kW (= 7.37 hp)	1695.00	Southern Cross, 45 Machinery Street, Barra Qld. 4076. Ph. (07) 375 3944 Fax (07) 375 4553
Service kit for Grundfoss, No. 184 (48-50-83)	243.32	
Backing flanges to fit to 90 mm polypipe (x2)	90.00	
Onga 146 (oversized engine) to pump from storage tank into system or to elevated tank (suggest a good back-up pump also). If Onga 146 runs dry, materials required to repair:	657.00	
Seal	75.00	
Impellor	48.60	
Diffuser	27.60	
Baffle	25.20	
Casings No. 301106	51.50	
Yokes No. 402061	39.60	
O-Rings No. 702180	6.70	
Diesel backup to turn 160 000 L over 2x/day — Onga 150 (cast iron pump case) + 4.5 hp Yanmar diesel	2100.00	

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Equipment description	Estimated cost	Company name and address
Onga 120 (2.7 amps)	300.00	See preceding page.
50 mm pipe joiner	14.95	
50 mm plastic ball valves	34.78	
black polypipe per metre	0.72	
1 µm GAF bags PIS P1 (minimum order of 10 for all GAF bags)	5.40	Swiss Screens P/L, 4/14 Randall Street, Slacks Creek Qld. 4127. Ph. (07) 209 5111 Fax (07) 808 2048
5 µm GAF bags PIS P5	4.70	
10 µm GAF bags PIS P10	4.70	
25 µm GAF bags PIS P25	4.70	
Normal Screening (Nytal) available in 1 metre x 102 cm wide		
25 µm screening 0025HD-102 (18% open area)	85.60	
53 µm screening 270-53-102 (36% open area)	44.60	
100 µm screening 013-100-102 (39% open area)	28.50	
200 µm screening 007-200-102 (48% open area)	25.60	
500 µm screening GG38-0500 (50% open area)	21.30	
1000 µm screening GG20-1000 (61% open area)	21.30	
Heavy Duty Screening (Nytal) available in 1 metre x 142 cm wide		
37 µm screening HD400-37 (30% open area)	94.00	
44 µm screening HD325-44 (31% open area)	86.80	
53 µm screening HD270-53 (35% open area)	60.20	
62 µm screening HD230-62 (35% open area)	56.10	
74 µm screening HD200-74 (35% open area)	50.50	
88 µm screening HD170-88 (35% open area)	44.00	
105 µm screening HD140-105 (36% open area)	37.70	
Opaque Filter Housing Cartridges (Product Code FSC10P-BO)	55.20	

Equipment description	Estimated cost	Company name and address
Rangefinder 1200 Carry case to suit	223.30 42.49 (Ex-stock Cairns)	Sokkisha P/L, Unit 1, 131-133 Scott Street, Cairns Qld. 4870. Ph. (070) 31 5399 Fax (070) 31 5404
		or Sokkisha P/L, Unit 1, Montague Chase, Cnr. Montague Street, West End Qld. 4101. Ph. (07) 846 3385 Fax (07) 844 3907
Frippak Booster (Code DA1353) 440g	60.00	Rhone-Poulenc P/L, 66 Antimony Street, Carole Park, P.O. Box 61, Goodna Qld. 4300. Ph. (07) 271 1244 Fax (07) 271 3335
Salinity 0-10% Refractometer (Cat.No.508-11)	284.00	Crown Scientific, P.O. Box 134, Newstead Qld. 4006. Ph. (07) 252 1066 Fax (07) 252 5664

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Equipment description	Estimated cost	Company name and address
Gilson Adjustable Pipetman P1000 (H23602)	340.00	John Morris Scientific, 47 Brookes Street, Bowen Hills Qld. 4006. Ph. (07) 854 1713 Fax (07) 252 1067 Ph. 008 251 799 toll free
Gilson Adjustable Pipetman P5000 (H23603)	400.00	
Tips Natural C5000 per 1000 (G23969)	110.00	
Tips Natural C1000 per 1000 (G23894)	60.00	
YSI 5775 Membrane Kit standard	20.50	
Pack (10) Hypo-leur needles 18g x 3"	30.00	Lyppard Chemical P/L., 149 Carpenter Street, Brighton Vic. 3186. Ph. (03) 592 7733
Pack (5) Biopsy Needles 14g x 6" (No.2N2704T)	30.00	