culturecollection of algae and protozoa

media recipes

BB:MErds

Freshwater/brackish water algae

Medium

8:2 mixture or 1:1 mixture

See separate recipes. Mix then autoclave at 15 psi for 15 minutes.

Bold's Basal Medium (BB)

Freshwater algae

Stocks		**per 400 ml**
(1)	$NaNO_3$	10.0 g
(2)	$MgSO_4.7H_2O$	3.0 g
(3)	NaCl	1.0 g
(4)	K_2HPO_4	3.0 g
(5)	KH_2PO_4	7.0 g
(6)	$CaCl_2.2H_2O$	1.0 g
		per litre
(7)	Trace elements solution (autoclave to dissolve):	
	$ZnSO_4.7H_2O$	8.82 g
	$MnCl_2.4H_2O$	1.44 g
	MoO_3	0.71 g
	$CuSO_4.5H_2O$	1.57 g
	$Co(NO_3)_2.6H_2O$	0.49 g
(8)	H_3BO_3	11.42 g
(9)	EDTA	50.0 g
	KOH	31.0 g
(10)	$FeSO_4.7H_2O$	4.98 g
	H_2SO_4 (conc)	1.0 ml

Medium	**per litre**
Stock solutions 1 - 6	10.0 ml each
Stock solutions 7 - 10	1.0 ml each

Make up to 1 litre with glass distilled or deionised water.

CCAP (Culture Collection of Algae and Protozoa), Dunstaffnage Marine Laboratory,
Oban, Argyll, PA37 1QA, UK
Tel: +44 (0)1631 559000 Fax: +44 (0)1631 559001 Email: ccap@sams.ac.uk Web: www.ccap.ac.uk

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MErds (Modified Føyns Erdschreiber Medium)

Marine protozoa

Stock		**per 100 ml**
(1)	$NaNO_3$	20.0 g
	Na_2HPO_4	1.2 g

Medium	**per litre**
Soil extract with salts (SES) - see below	100.00 ml
Stock solutions (1) and (2)	1.0 ml each
Filtered seawater	898.0 ml

Mix the above constituents and autoclave at 15 psi for 15 minutes. It may be necessary to filter final medium to avoid problems with precipitate.

SES (Soil Extract with Added Salts)

Stocks		**per litre**
(1)	K_2HPO_4	1.0 g
(2)	$MgSO_4.7H_2O$	1.0 g
(3)	KNO_3	10.0 g

Medium	**per litre**
Stock solutions 1 - 3	20.0 ml each
Soil extract (*SE - see overleaf)	100.0 ml

* At the CCAP, SE1 is used for marine algae, SE2 for freshwater and terrestrial protozoa.

Make up to 1 litre with deionized water and autoclave at 15 psi for 15 minutes.

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SE1 (Soil Extract 1)

used in media for marine algae and protozoa

Preparing the soil

Site selection for a good soil is very important and for most purposes a soil from undisturbed deciduous woodland is best. Sites to avoid are those showing obvious signs of man's activity and particular care should be taken to avoid areas where fertilizers, crop sprays or other toxic chemicals may have been used.

A rich loam with good crumb structure should be sought. Stones, roots and larger invertebrates should be removed during an initial sieving through a 1 cm mesh. The sieved soil should be spread to air dry and hand picked for smaller invertebrates and roots. It should be turned periodically and picked over again. When dry it may be sieved through a finer mesh (2-4 mm) or stored as it is prior to use.

Medium

Soil is prepared as above. Air-dried soil and twice its volume of supernatant distilled water are autoclaved together at 15 psi for 2 hours and left to cool. The supernatant is then decanted and filtered through Whatman No 1 filter paper, then distributed to containers in volumes suitable for making up batches of media. The aliquots and their containers are autoclaved for an appropriate length of time (e.g. 1 litre or less for 15 minutes) and are then kept in a cool place (e.g. a refrigerator) until required.

SE2 (Soil Extract 2)

Freshwater and terrestrial protozoa

Preparing the soil

As for SE1.

Medium

Soil is prepared as above. 105 g of air-dried sieved soil and 660 ml of deionized water are placed in a 1 litre bottle and autoclaved once at 15 psi for 15 minutes, then again after 24 hours. The contents of the bottle are left to settle (usually for at least a week) and then the supernatant is decanted and filtered. The final pH should be 7.0 - 8.0.

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