16: BB:MErds

Final volume: 1000 ml

Mail sol. C_{16}

Bold's Basal Medium (BB)	800.00	ml
MErds (Modified Føyns Erdschreiber Medium)	200.00	ml

1. 8:2 mixture or 1:1 mixture

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

Bold's Basal Medium (BB)

$NaNO_3$ (10 g/400 ml stock solution)	10.00	ml
$MgSO_4$ x 7 H_2O (3 g/400 ml stock solution)	10.00	ml
NaCl (1 g/400 ml stock solution)	10.00	ml
K_2HPO_4 (3 g/400 ml stock solution)	10.00	ml
KH_2PO_4 (7 g/400 ml stock solution)	10.00	ml
$CaCl_2$ x 2 H_2O (1 g/400 ml stock solution)	10.00	ml
Trace elements solution	1.00	ml
H_3BO_3 (11.42 g/l stock solution)	1.00	ml
Stock solution 1	1.00	ml
Stock solution 2	1.00	ml
Distilled water	1000.00	ml

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

Stock solution 1

EDTA	50.00	g
KOH	31.00	g

Stock solution 2

$FeSO_4$ x 7 H_2O	4.98	g
H_2SO_4 (concentrated)	1.00	ml

Trace elements solution

$ZnSO_4$ x 7 H_2O	8.82	g
$MnCl_2$ x 4 H_2O	1.44	g
MoO_3	0.71	g
$CuSO_4$ x 5 H_2O	1.57	g

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$Co(NO_3)_2$ x 6 H_2O	0.49	g

MErds (Modified Føyns Erdschreiber Medium)

SES (Soil Extract with Added Salts)	100.00	ml
$NaNO_3$ (20 g/100 ml stock solution)	1.00	ml
Na_2HPO_4 (1.2 g/100 ml stock solution)	1.00	ml
Sea water (filtered)	1000.00	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)

K_2HPO_4 (1.0 g/l stock solution)	20.00	ml
$MgSO_4$ x 7 H_2O (1.0 g/l stock solution)	20.00	ml
KNO_3 (10.0 g/l stock solution)	20.00	ml
SE1 (Soil Extract 1)	100.00	ml
Deionized water	840.00	ml

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

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

SE1 (Soil Extract 1)

Soil (air-dried)	traces
Distilled water	traces

1. 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.

2. 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 handpicked for smaller invertebrates and roots. It should be turned periodically and picked over again. When dry sieve through a finer mesh (2-4 mm) and store in an airtight container away from light and heat.

3. 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.

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SE2 (Soil Extract 2)

Soil (air-dried, sieved)	105.00	g
Deionized water	660.00	ml

1. 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.

2. 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.

3. 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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