



7 - Bacillariophycean Medium

	stock solution [g/L]	nutrient solution [ml]
$\text{Ca}(\text{NO}_3)_2 \cdot 4 \text{H}_2\text{O}$	2	20
K_2HPO_4	1	10
$\text{MgSO}_4 \cdot 7 \text{H}_2\text{O}$	1	25
Na_2CO_3	1	20
$\text{Na}_2\text{SiO}_3 \cdot 9 \text{H}_2\text{O}$	1	50
Fe-citrate	1	10
citric acid	1	10
soil extract *		30
micronutrient solution **		5
de-ionized or distilled water		820

* Preparation of soil extract (as in medium 1):

Fill a 6 litre flask one third with garden or leaf soil of medium, but not too great humus content which does not contain fertilizers or plant protective agents. Success of soil extract depends on selection of suitable soils. Those with high clay content are usually less satisfactory. Add de-ionized water until it stands 5 cm above the soil and sterilize by heating in a steamer for one hour twice in a 24 h interval. Separate the decanted extract from particles by centrifugation. Fill into small containers of stock solution each of a size appropriate to making a batch of media, autoclave for 20 min at 121°C and store in the refrigerator.

** Preparation of the micronutrient solution (as in medium 1):

	stock solution [g/100 ml]	nutrient solution
$\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$	0.1	1 ml
$\text{MnSO}_4 \cdot 4\text{H}_2\text{O}$	0.1	2 ml
H_3BO_3	0.2	5 ml
$\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$	0.02	5 ml
$\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$	0.02	5 ml
$\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$	0.0005	1 ml
de-ionized or distilled water		981 ml
$\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$		0.7 g
EDTA (Titriplex III, Merck)		0.8 g

Add vitamin B₁₂ (5 x 10⁻⁶ g/l) in sterile solution after cooling.

a) Bacillariophycean Medium with Vitamins (= Diat + Vit.mix.)

Add following sterile vitamin-solutions after cooling:

1 ml of thiamine-solution (0.1 g/100 ml)

0.5 ml of biotin-solution (25 x 10⁻⁶ g/100 ml)

0.5 ml of vitamin B₁₂-solution (10 x 10⁻⁶ g/100 ml)

vitamin B1 (5 x 10⁻⁴ g/l) in sterile solution to medium 7 after cooling.