

Preparation of 100 ml shoot multiplication medium

The medium consists of inorganic salts and vitamins of MS medium, 30 g/L sucrose, 100 mg/L myo-inositol, 4 mg/L BA and 8 g/L agar Using:

- powdered MS medium (salts and vitamins) 4.4 g/L
- Sucrose
- Myo-inositol stock solution (10 mg/ml).
- BA stock solution (1 mg/ml).
- Agar

The pH is 5.8

Calculations

MS Powder

4.4 g \longrightarrow 1000 ml

X g \longrightarrow 100 ml

$$X = \frac{4.4 * 100}{1000} = 0.44 \text{ g}$$

Sucrose

30 g \longrightarrow 1000 ml

X g \longrightarrow 100 ml

$$X = \frac{30 * 100}{1000} = 3 \text{ g}$$

Myo-inositol stock conc. = 10 mg/ml = 10 000 mg/L

$$\text{Stock} \text{---} \textcircled{NV} = \textcircled{N'V'} \text{---} \text{Medium}$$
$$10\,000 * V = 100 * 100$$

$$V = \frac{100 * 100}{10\,000} = 1 \text{ ml}$$

BA stock conc. = 1 mg/ml = 1 000 mg/L

$$\text{Stock} \text{---} \textcircled{NV} = \textcircled{N'V'} \text{---} \text{Medium}$$
$$1\,000 * V = 4 * 100$$

$$V = \frac{4 * 100}{1\,000} = 0.4 \text{ ml}$$

Agar

$$\begin{array}{ll} 8 \text{ g} & \longrightarrow 1000 \text{ ml} \\ X \text{ g} & \longrightarrow 100 \text{ ml} \end{array}$$

$$X = \frac{8 * 100}{1000} = 0.8 \text{ g}$$

Steps:

In 250 ml clean beaker, put 50 ml distilled water and dissolve:

0.44 g powdered MS medium (weigh using 3 digits electric balance)

3 g sucrose

1 ml myo-inositol stock solution (10 mg/ml) (using 1 ml glass Pipette or 1000 µl micropipette)

0.4 ml BA stock solution (1 mg/ml) (using 1000 µl micropipette)

Up to 90 ml with distilled water (using 100 ml measuring cylinder)

Adjust pH to 5.8 using KOH and HCl

Up to 100 ml with distilled water (using 100 ml measuring cylinder)

Add 0.8 g Agar and boil with continuous stirring till disappearance of Agar

Divide into 2 jars

Autoclave for 20 minutes at 121 °C.

Comment: