

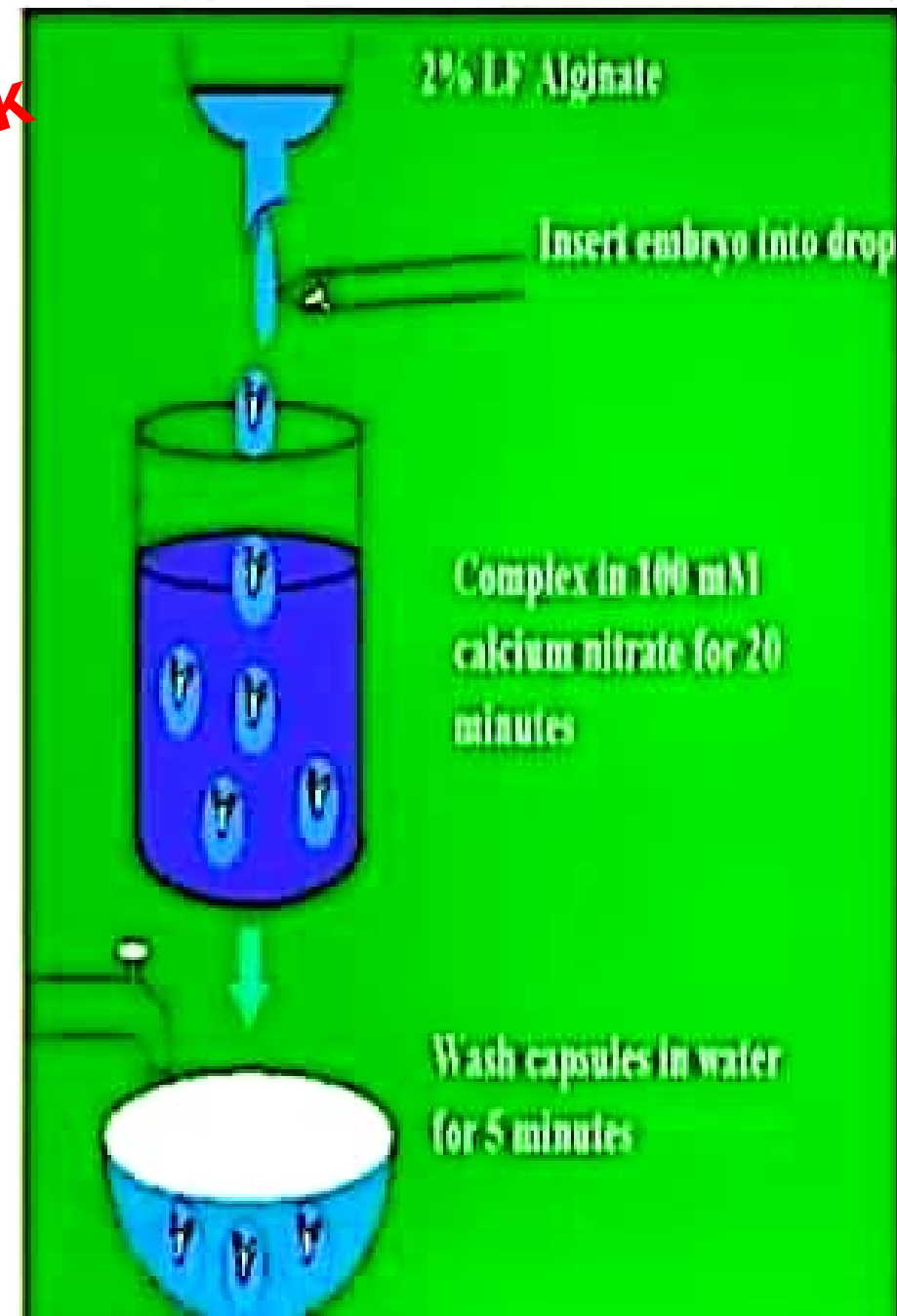
BASIC REQUIREMENT FOR THE PRODUCTION OF ARTIFICIAL SEEDS.

- One pre-requisite for the application of synthetic seed technology in micropropagation is the production of high quality,
 1. Vigorous Somatic Embryos that can produce plants with frequencies comparable to natural seeds.
 2. Inexpensive production of large numbers of high quality somatic embryos with synchronous maturation.
 3. Encapsulation and coating systems, though important for delivery of somatic embryos, are not the limiting factors for the development of synthetic seeds.
 4. Commercialization of synthetic seeds.

Encapsulation methods for synthetic seed

A) Dropping procedure

- 1) The most useful encapsulation system. Drip 2-3% sodium alginate drops from at the tip of the funnel and the somatic embryos are inserted
- 2) Keep the encapsulated embryos complex in calcium salt for 20 min
- 3) Rinsed the capsules in water and then stored in a air tight container



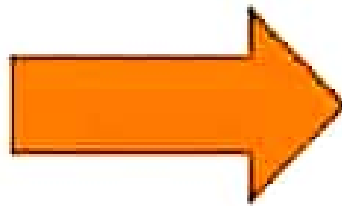
Benefits of Vegetable Grafting

- Resistance/tolerance to biotic stress (soil born diseases)
- *Fusarium* wilt: cucumber, melon, watermelon, tomato
- *Fusarium* crown and root rot: tomato, cucumber, watermelon
- *Monosporascus* wilt: melon, watermelon
- *Verticillium* wilt: tomato, eggplant, watermelon
- *Phytophthora* blight: pepper
- Bacterial wilt: tomato, eggplant
- Root-knot nematodes: tomato, eggplant, pepper

Barrett et al., 2012; Davies et al., 2008; Lee, 1994; Lee, 2003; Lee and Oda, 2003; Louws et al., 2010; Oda, 2007; Rivero et al., 2003

1. CLEFT GRAFTING

- It is a simple and easy method
- It is suitable for rootstocks with wide hypocotyls
- Can be practiced in all vegetables





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