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**Domain: Smart Agriculture**

**Course: Growing of Hydroponics Spinach**

**Project topic: Nursery Raising**





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- Spinach or *Spinacia oleracea* L. belongs to the *Chenopodiaceae* family.
- Spinach are hardy plants that will grow in variety of climatic conditions.
- It is one of the few crops that can be grown successfully during summer and winter.
- Besides lettuce, recently various hydroponic experiments were conducted using spinach as model crop





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## Establishment of spinach

**Planting density:** Spinach are hardy plants that will grow in variety of climatic conditions.

Most spinach growers use a closed hydroponic system to grow their spinach.

These systems have a 1m wide bed with a divider in between resulting in two channels of approximately 0.5m each.

The planting density varies between 8 and 16 plants/m<sup>2</sup>, while baby spinach can reach densities of up to 100 plants/m<sup>2</sup>.

### **Ideal temperatures for spinach**

Spinach grows well between **10 °C and 28 °C**.

Be careful during higher temperatures; leaves are thinner and wilt more quickly so the shelf life of the leaves are shortened considerable.

Also be aware that there will be much more fungi and bacteria on the leaves which can cause postharvest decay.



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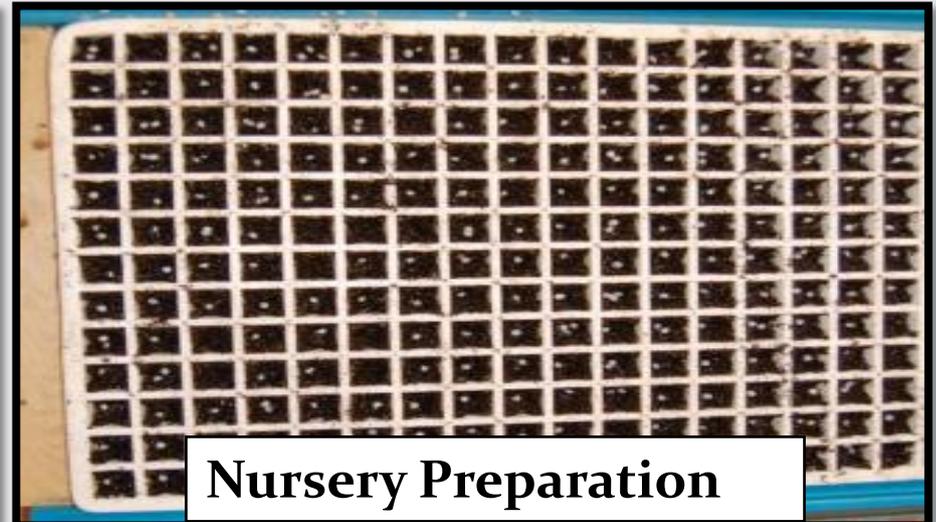
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# Seed sowing of Spinach

- Production of spinach begins with the making of the germination media.
- Media should be moistened to an optimal moisture before sowing occurs.
- Fill the portrays with media
- Trays are filled with a peat/perlite / potting mixture.
- The moisture content of media should be critical to seedling germination
- Place seed on top of media by hand or with help of forcep (To avoid contamination)
- Add additional media and compact.
- Place trays in humid environment for germination.
- Please note that media CANNOT be re-used because of the risk of disease. Also note that media cannot be autoclaved to reduce disease risk because that process damages the physical properties of the media.



**Spinach seeds**



**Nursery Preparation**



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**Thank you...**