

Unit 2 - Tillage and Tilth

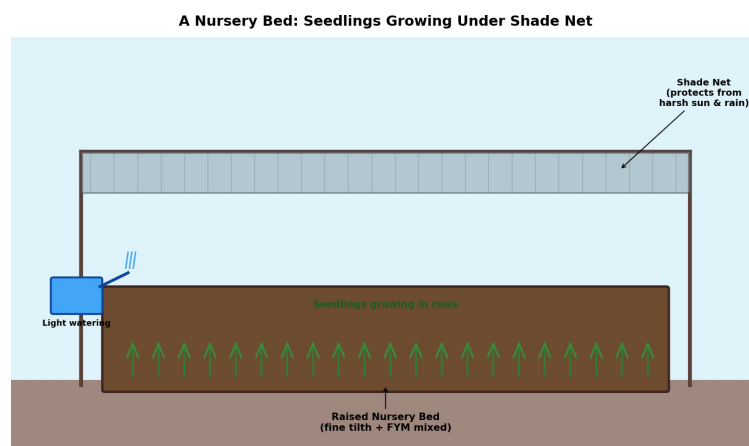
UNIT 2: TILLAGE AND TILTH

Topic 6: Nursery Management

Introduction — Nursery Kya Hai Aur Yah Kyun Zaroori Hai?

Nursery ek chhota, specially prepared aur carefully managed area hota hai jahan beej se seedlings (chhote, young paudhe) ugaye jaate hain, before unhe main field mein transplant kiya jaaye. Yah method especially un crops ke liye use hoti hai jinke beej delicate hote hain, ya jinhe initial stage mein extra care aur protection ki zaroorat hoti hai — jaise rice (paddy), tomato, brinjal, onion, chilli, cabbage, aur kayi fruit crops.

Nursery management ek systematic, step-by-step process hai. Har step ko sahi tarique se follow karna zaroori hai, kyunki nursery stage mein hone wali galti directly final crop ki health aur yield ko affect karti hai. Niche di gayi image mein ek real nursery bed dikhayi gayi hai, jisme seedlings rows mein ug rahe hain aur upar shade net laga hua hai jo unhe protection deta hai:



Nursery Bed with Shade Net

Nursery Management Ke Mukhya Steps — Vistaar Se

Step 1: Site Selection

Nursery ke liye sahi jagah select karna pehla aur foundation step hai. Site choose karte waqt yeh factors dhyan mein rakhne chahiye: - Mitti fertile aur well-drained honi chahiye — paani rukna nahi chahiye, kyunki waterlogging se seedlings ki jadein sad sakti hain (root rot). - Irrigation ka source (jaise tubewell, canal, ya pond) nursery ke paas hona chahiye, kyunki seedlings ko regular, light watering ki zaroorat

hoti hai. - Site par adequate sunlight pahunchni chahiye, lekin bahut zyada direct, harsh sunlight bhi nahi honi chahiye — isliye shade net ka use kiya jaata hai. - Site ko strong winds se protected hona chahiye, taaki delicate seedlings damage na hon. - Main field ke paas hona bhi preferable hota hai, taaki transplanting ke time seedlings ko zyada door tak carry na karna pade, jisse transplant shock kam ho.

Step 2: Bed Preparation

Achhi quality seedlings ke liye bed preparation bahut critical hota hai. - **Raised beds** banayi jaati hain — matlab beds zameen ke level se thodi unchi hoti hain. Isse excess paani aasani se drain ho jaata hai aur waterlogging nahi hoti. - Mitti ko **fine tilth** tak laaya jaata hai — matlab mitti ko bilkul bhurbhuri (crumbly), bina kisi bade dhele ke, taiyar kiya jaata hai. Isse beej ka contact mitti ke saath achha hota hai aur germination uniform hoti hai. - **FYM (Farm Yard Manure)** ya well-decomposed compost ko mitti mein achhe se mix kiya jaata hai. Yah organic matter seedlings ko initial nutrition deta hai aur mitti ki water-holding capacity bhi improve karta hai. - Beds ki width usually itni rakhi jaati hai (1 se 1.2 meter) ki workers dono side se aasani se kaam kar sakein bina bed par chadhe.

Step 3: Sowing Seeds

Bed taiyar hone ke baad, beej ko sahi tarike se sow kiya jaata hai. - Sowing se pehle **seed treatment** kiya jaata hai — yah usually fungicide ya bio-agent (jaise Trichoderma) ke saath seeds ko coat karna hota hai, taaki soil-borne diseases se protection mile. - Seeds ko **thinly** (kam density mein) aur **evenly** (barabar) bed mein sow kiya jaata hai. Agar seeds bahut close sow kiye jaayein, to seedlings overcrowd ho jaayengi, jisse weh thin, weak, aur disease-prone ho sakti hain. - Sowing ke baad, ek halki mitti ya fine compost ki layer se beej ko cover kiya jaata hai.

Step 4: Watering Aur Protection

Seedlings ki growth stage mein, care aur protection bahut zaroori hota hai. - **Light irrigation** di jaati hai — matlab thoda paani, lekin regularly. Zyada paani dene se waterlogging aur fungal diseases ka risk badh jaata hai, jabki kam paani se seedlings sookh sakti hain. - **Shade net** ya doosra cover lagaya jaata hai upar se, jo: - Tez dhoop se seedlings ko bachata hai, jo unhe scorch (jhulsa) kar sakti hai. - Heavy rainfall ke direct impact se bhi protect karta hai, jo delicate seedlings ko damage kar sakta hai. - Kuch insects aur birds se bhi physical barrier ka kaam karta hai. - Regular monitoring ki jaati hai pests ya diseases ke early signs ke liye, taaki turant action liya ja sake.

Step 5: Hardening

Hardening ek important lekin often overlooked step hai. - Transplanting se kuch din pehle (usually 3-5 din), seedlings ko diya jaane wala paani gradually kam kiya jaata hai. - Isse seedlings “tough” ho jaati hain — unki cell structure aisi develop hoti hai jo unhe field ki harsh conditions (jaise direct sunlight, wind, variable temperature) ko better tarike se handle karne mein madad karti hai. - Hardening ke bina, seedlings jab directly nursery ke protected environment se field ke open environment mein transplant ki jaati hain, to unhe severe stress ho sakta hai, jisse mortality rate badh jaata hai. - Yah step seedling ke survival rate ko field mein significantly improve karta hai.

Step 6: Transplanting

Yah nursery management ka final step hai, jahan seedlings ko main field mein move kiya jaata hai. - Seedlings ko transplant karne ka sahi time tab hota hai jab weh ek specific age ya height/leaf number tak pahunch jaati hain (crop ke hisaab se yah vary karta hai — jaise paddy ke liye usually 21-25 din ki seedlings transplant ki jaati hain). - Seedlings ko carefully, bina jadon ko zyada damage kiye, ukhada jaata hai. - Field mein unhe sahi spacing (jo crop density ke according determine ki gayi hoti hai) par lagaya jaata hai. - Transplanting ke turant baad halki irrigation di jaati hai, taaki seedlings ka naye environment mein establishment achha ho.

Nursery Management Kyun Itna Zaroori Hai? — Summary

Nursery stage crop ki “foundation” hoti hai. Agar yah foundation strong hai, to aage ki growth bhi achhi hogi. Iske key benefits hain:

1. **Healthy, Strong Seedlings** — controlled environment mein careful management se, sirf healthy aur vigorous seedlings hi field mein jaati hain.
2. **Disease Aur Pest Risk Kam** — shuru se hi care lene se, diseases aur pests ko control karna aasan hota hai compared to jab weh poore field mein fail jaayein.
3. **Better Survival Rate** — hardening jaisi practices se, field mein transplant hone ke baad seedlings ka survival rate high rehta hai.
4. **Resource Efficiency** — nursery mein kam area mein concentrated care di ja sakti hai, jo main field mein directly sowing karne se zyada efficient hota hai, especially expensive ya delicate seeds ke liye.
5. **Uniform Crop Stand** — selected, uniform-age seedlings transplant karne se, main field mein crop ka growth bhi uniform hota hai, jo management aur harvesting dono ke liye beneficial hai.

Conclusion

Nursery management ek careful, scientific, aur step-by-step process hai — site selection se lekar final transplanting tak, har step apni jagah important hai. Ek choti si galti, jaise overwatering ya delayed hardening, final crop ki health aur yield par significant negative impact daal sakti hai. Isiliye, agriculture students aur farmers dono ke liye yah zaroori hai ki weh nursery management ke har step ko gehrai se samjhein aur practically implement karein, taaki strong, healthy seedlings mile jo aage chal kar ek successful aur profitable crop ka base banein.