



WATER USE AND INTEGRATED PEST MANAGEMENT

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Water Usage



Water Use

Seeds

- Hardier
- Growing period is shorter
- Need more water initially

Clones

- Provide insurance for exact chemical profile
- Require more nutrients as they mature, which may mean more water

Water Use

Outdoor

- Varies by region, variety and planting date
- Some CA information points to 6 gallons/per day/per plant
- Some CA information states one gallon/per day/per pound (slightly lower if you assume one plant = 2-4 lb)
- Don't really know yet what outdoor growing would look like in MA

Indoor

- Different methods of growing
- Approx. 30 gallons per day/per room for 500 small plants
- May not water every day, depends on stage of plant
- Water usage will depend on if there is a water recycling system

Location of Facility

- If using municipal or regional water supplier, be aware of that entities capacity to supply the water
- If developing own water supply, contact DEP for help

Water Application

- Flood tables
- Drip Irrigation
- Wick systems
- Hand watering
- Aeroponics
- NFT (Nutrient Film Technique) System
- Water Culture System

Capture and Reuse

Waste Water

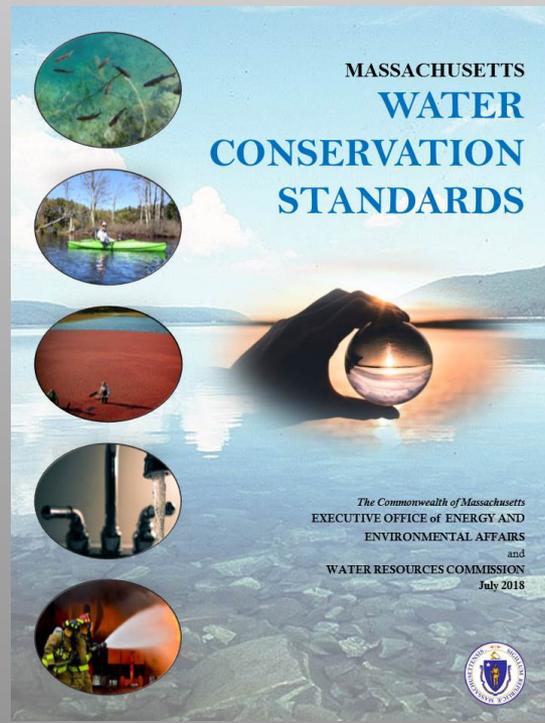
- Captures the waste water through drains, tanks, lines etc.
- Runs through filtering system/reverse osmosis system and reused in the grow rooms
- One MA grower states that systems reclaim 425 gallons of water for every 500 gallons

Condensation

- Collect from air conditioning and dehumidifiers
- NM grower uses water collected for up to ½ of its water that is used

MA Water Conservation Standards

<https://www.mass.gov/massachusetts-water-conservation-standards>



Best Management Practices

- Choose the appropriate cultivar
- Drip irrigation
- Use a water recapturing system
- Water when needed
- Build good soil



Integrated Pest Management

Definition

- “A comprehensive strategy of pest control whose major objective is to achieve desired levels of pest control in an environmentally responsible manner by combining multiple pest control measures to reduce the need for reliance on chemical pesticides; more specifically, a combination of pest controls which addresses conditions that support pests and may include, but is not limited to, the use of monitoring techniques to determine immediate and ongoing need for pest control, increased sanitation, physical barrier methods, the use of natural pest enemies and a judicious use of lowest risk pesticides when necessary.”

IPM Concepts

- **Identify:** accurate id is important for proper control method
- **Prevent:** reduce habitat that encourages pests, sanitation, etc.
- **Monitor:** Scouting is necessary; use traps if appropriate
- **Control:** Cultural, Mechanical, and Biological

Important Note: Pesticides NOT allowed to be used

Questions?

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