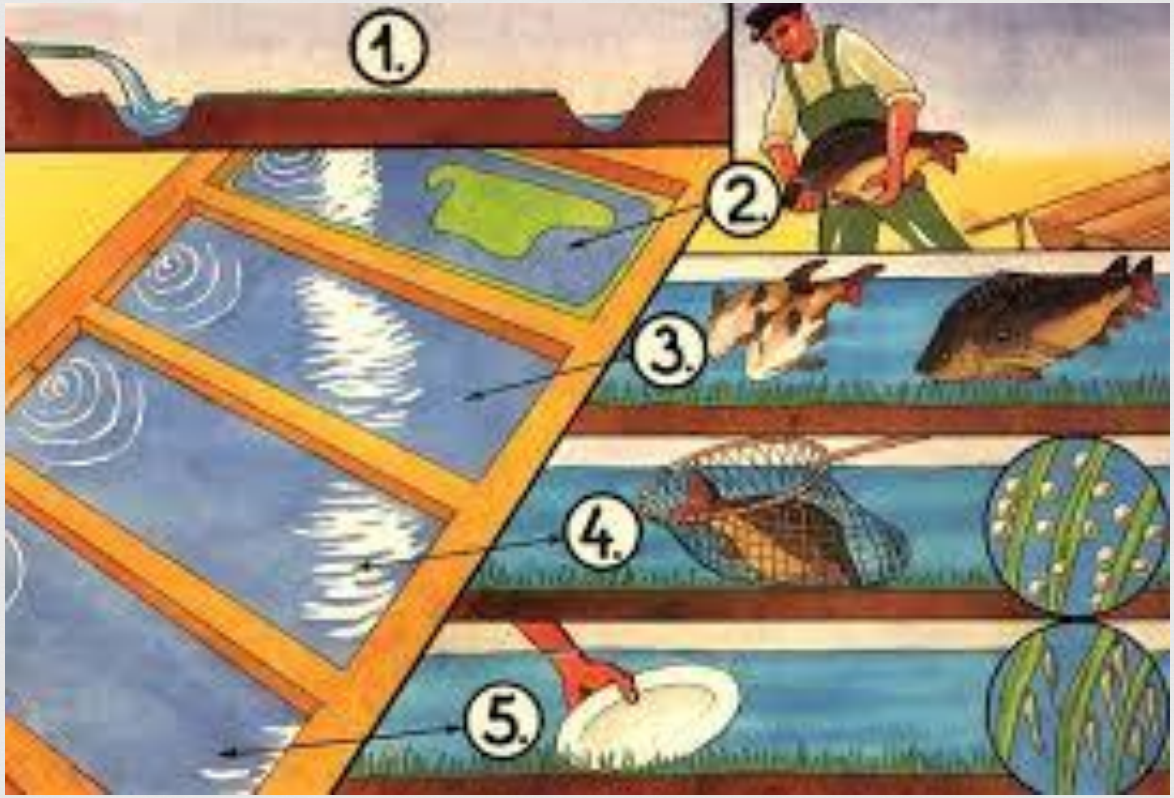
Lecture 11c

Spawning Carp

Spawning Broodfish

- Carp
  - Carp are a highly fecund species
    - Produce a lot of eggs 1 female = 300 000 eggs
  - Breed easily in captivity, especially in ponds
    - Typically breed seasonally
      - Once a year in summer when water is warm
  - Breeding carp under natural conditions is best
    - Farmers try to imitate natural conditions

Fish husbandry



Fish husbandry

- Step 1 – Choose your fish
  - Females should be kept separately from males
    - At the beginning of summer prepare the breeding ponds
  - Fish will typically spawn only once a year, so it is important to plan your production accordingly

- Step 2 – Prepare breeding ponds
  - Breeding ponds should be shallow around half a meter deep
  - They can be fairly large 10m x 10m or bigger
  - Fertilise the pond with manure and layer it with vegetation (long grass works well)
  - Fill with water and allow the water to go green

Fish husbandry

- Step 3 – Add broodfish
  - Breeding populations of should be stocked when the water temperature is above 22°C
  - A sex ratio of 5 females for every 2 males good, This is enough fish for a 10m x 10m Pond

- Step 4 – Allow the fish to spawn
  - As long as the water is above 22°C the fish should spawn within a few days.
    - You will notice a lot of activity as the fish chase each other in the shallow water.
    - The female will lay her eggs on the submerged vegetation
    - The eggs hatched after 2-4 days

Fish husbandry

- Step 5 – Remove the adults
  - Once the eggs have hatched you should notice small fry along the edges of the pond.
    - Partially drain the pond to concentrate the fish are using nets remove the adult fish from the pond.
  - The carp fry will eat the algae and micro-organisms in the water
- This kind of farming is called green water culture and uses little or no feed

Fish husbandry

- Step 6 – Rearing the fingerlings
  - The carp fingerlings will continue to eat and grow on the natural productivity of the pond
    - Add compost as discussed previously to help boost or maintain productivity in the water
    - Once the fish are big enough you can supplement with feed to make them grow faster.
  - Stocking density and water flow (oxygen) and linked
    - More fish = more flow

Fish Husbandry

- Step 7 – Size Sorting
  - Size sorting is a good way to keep on track of how many fish you have and how big they are.
  - Carp do not need to be sorted often.
    - When the fingerlings are big enough – (5-10g)
    - Partially drain the pond to concentrate the fish
    - Using a net gently catch the fish.
    - As before weigh a count and weigh a sample to estimate the average weight of each fish
    - Weigh all the fish to get an estimate of how many you have.

Fish Husbandry

- Step 8 Stocking
  - Once you have all your fingerlings you need to stock them into your ponds
  - The stocking density will be determined by the water inputs and feed.
  - Min inputs = 10 fish/m^2
- From one breeding pond you will produce many more fish than you can use
  - Sell these to other farmers
  - Eat them

Fish Husbandry

- It is also possible collect and hatch eggs as with Tilapia
  - The market value of carp is low
  - Intensive farming is too expensive
- Carp is the best fish for extensive farming
  - Tolerant of wide temperature range
  - Breed naturally and easily
  - Tolerant of disease and low oxygen conditions
  - Can live in high densities