POND PREPARATION TO IMPROVE CARP WELFARE

FIELD BOOKLET

FISH WELFARE INITIATIVE

karthik@fwi.fish  fwi.fish
POND PREPARATION

Newly constructed or renovated ponds need to be prepared before every production cycle to ensure good water quality facilitate high fish welfare.

**STEP 1**
DEBRIS & WEEDS
Remove excessive plants by hand or with machines.

**STEP 2**
ANALYZE SOIL
Collect samples from the pond bottom.

**STEP 3**
DRAIN POND ENTIRELY
The soil needs to be dry enough to crack. If there are wild fish in the pond, relocate them or do not drain the pond.

**STEP 4**
DEMUD POND
Dry pond for at least 15 to 21 days to kill pathogens.

**STEP 5**
DRY POND BOTTOM
Dry pond for at least 15 to 21 days to kill pathogens.

**STEP 6**
DISINFECT AND LIME
Using limestone/dolomite, quick lime, or gypsum, disinfect your pond.

**STEP 7**
FILL WITH WATER
Close the pond and fill it with clean, fresh water.

**STEP 8**
FERTILIZE
5-7 days after liming and 8-10 days before stocking.
LIMING YOUR POND

STEPS TO LIME A POND

**STEP 1**
Put on safety equipment.

**STEP 2**
Use amounts of lime as noted below.

**STEP 3**
Spread lime with direction of the wind, ensuring that it covers all pond surfaces.

**STEP 4**
Lime should be left in the pond for at least 24 hours before filling with water.

**STEP 5**
Do not apply the lime on a rainy day, since the concentration could be diluted, making it ineffective.

WHERE TO GET AND WHEN TO USE DIFFERENT LIME

<table>
<thead>
<tr>
<th>Name</th>
<th>Structure</th>
<th>Where to get</th>
<th>When to use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limestone</td>
<td>CaCO3</td>
<td>Available as agricultural lime in the market.</td>
<td>Use if water pH &lt; 7 and hardness and alkalinity &lt; 20 mg/L.</td>
</tr>
<tr>
<td>Burnt lime or Quicklime</td>
<td>CaO</td>
<td>Available as limestone in the market.</td>
<td>Only in dry ponds. Quicklime increases pH rapidly and is very alkaline.</td>
</tr>
<tr>
<td>Slaked lime or hydrated lime</td>
<td>Ca(OH)2</td>
<td>Available in the market in powder form.</td>
<td>When pH &lt; 4.5</td>
</tr>
<tr>
<td>Dolomite</td>
<td>CaMg(CO3)2</td>
<td>More availability in shrimp farming area.</td>
<td>Use in ponds with a lot of organic matter.</td>
</tr>
<tr>
<td>Gypsum</td>
<td>CaSO4,2 H2O</td>
<td>Available in the markets of some areas.</td>
<td>Gypsum is very effective in controlling turbidity. Use if water pH is high.</td>
</tr>
</tbody>
</table>

QUICKLIME PORTIONING

<table>
<thead>
<tr>
<th>Type of soil / pH</th>
<th>New pond</th>
<th>Old pond</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loam / 5-7</td>
<td>250 kg / ha</td>
<td>500 kg / ha</td>
</tr>
<tr>
<td>Clay / 4-6</td>
<td>1000 kg / ha</td>
<td>1500 kg / ha</td>
</tr>
</tbody>
</table>

MORE TIPS

- If the pH of the soil at the bottom of the pond is lower than 6.5, lime must be applied.
- Late fall and early spring are the best times to apply lime.
- Liming is more effective on sunny days.
- **If there are fish in the pond** the required amount of lime should be divided into 2 – 3 portions. Each portion should be soaked in the water for at least 12 hours and applied at 2-3 days intervals.