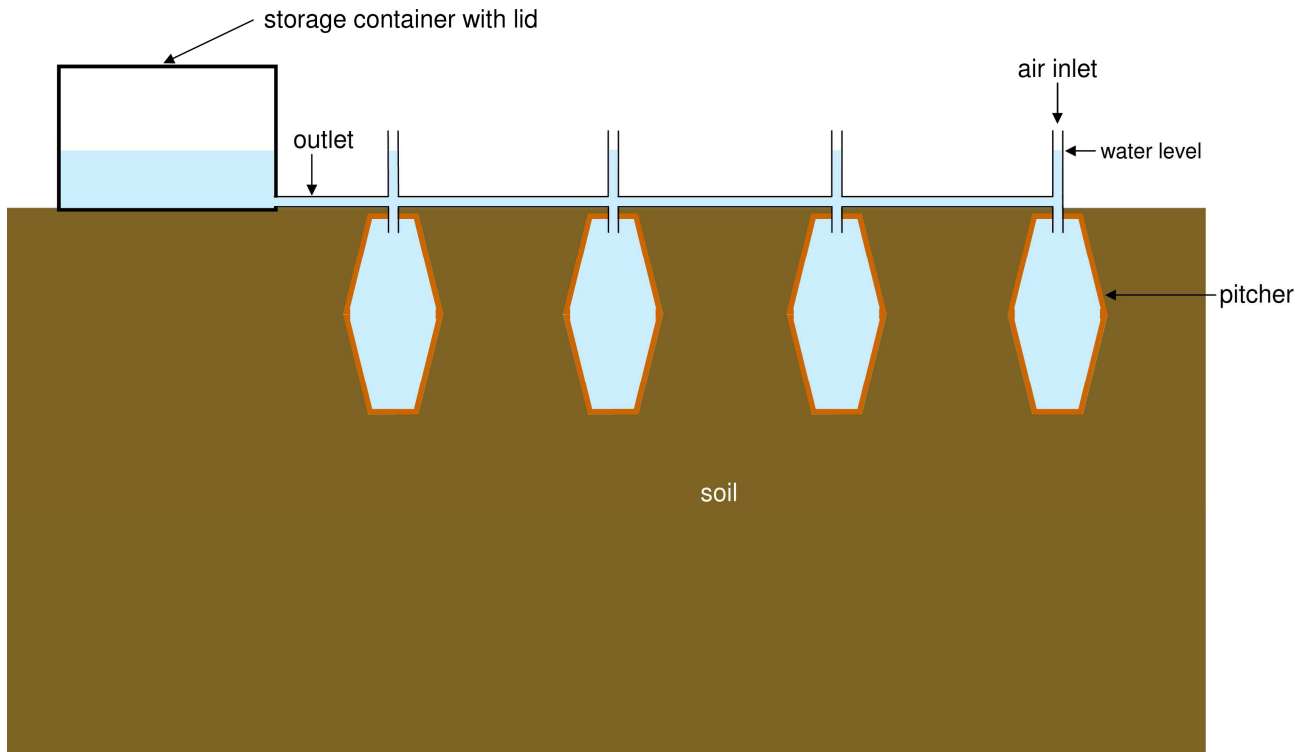


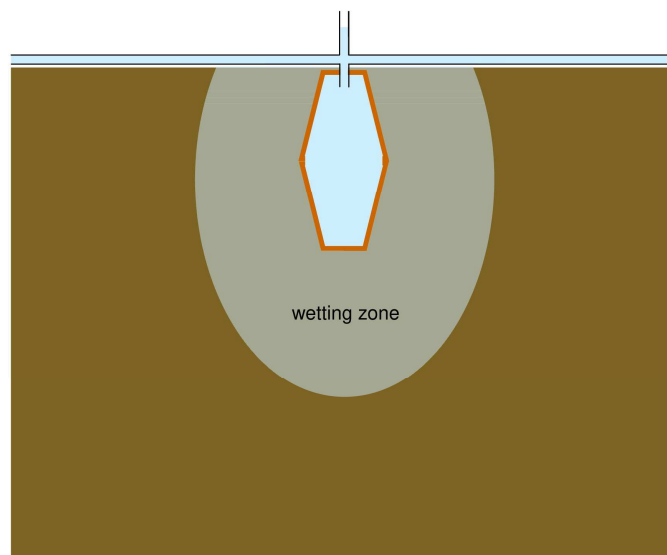
Pitcher Perfect Irrigation for Smallholders

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Pitcher Perfect Irrigation diagram



With pitcher irrigation, round porous clay pots are buried into the soil near the crop and filled with water. The water seeps out slowly through the porous walls of the pot and reaches the roots of the plants. As the plants consume the water, more water will seep out from the pot. In this way, the pot provides exactly the right amount of water needed for the plants.

CONTENTS:

- | | | |
|----|---|--------|
| 1. | How to make very low cost pitchers | page 2 |
| 2. | Components | page 3 |
| 3. | Installing Pitcher Perfect Irrigation | page 3 |
| 4. | Key feature o Pitcher Perfect Irrigation for smallholders | page 5 |

1. How to make very low cost pitchers



Small pitcher made from two 9cm terracotta pots (AU\$1.27 each at Bunnings)
Medium pitcher made from two 12cm terracotta pots (AU\$1.76 each at Bunnings)
Large pitcher made from two 16cm terracotta pots (AU\$2.31 each at Bunnings)

Step 1. Select two identical unglazed terracotta pots and seal the drain hole in one of the pots using masonry adhesive.



Step 2. Apply a bead of masonry adhesive to the rim of the pot.



Step 3. Carefully position the upper pot directly above the lower pot and gently press the pots together. Allow 24 hours for the adhesive to cure.



2. Components

To install Pitcher Perfect Irrigation you will need the following components

- pitchers
- rubber grommets 13mm
- polypipe 13mm
- barbed poly tees 13mm
- storage container with lid



barbed poly tee and grommet



storage container

3. Installing Pitcher Perfect Irrigation

Step 1. Bury pitchers at appropriate locations in your garden so that the root zone of each plant is within 30cm of at least one pitcher (for sandy soil the root zone may need to be closer to the pitcher).



Step 2. For each pitcher insert a 13mm rubber grommet into the hole in the pitcher. You may need to increase the diameter of the hole to 16mm.



Step 3. Insert a 13mm barbed poly tee into the 13mm grommet. It is recommended that you cut off the barb from the tee.



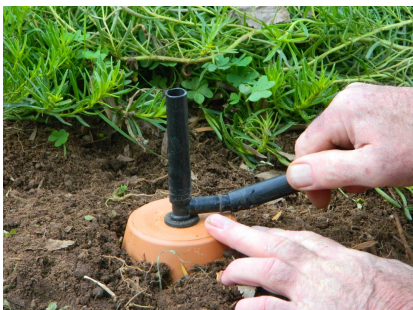
Step 4. Make an air inlet by connecting an 8cm length of 13mm polypipe to the tee.



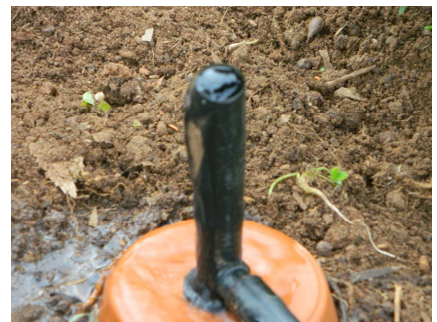
Step 5. Select a suitable storage container and drill a 16mm hole as low as possible in the side of the container. Insert a 13mm grommet and then insert a 13mm barbed poly joiner (or tee) into the grommet.



Step 6. Connect the outlet from the storage container to the pitchers using 13mm polypipe and 13mm barbed poly tees. The polypipe should all be at the same level so that the air inlets are at the same level.



Step 7. Fill the storage container with water until water starts to overflow at the air inlets

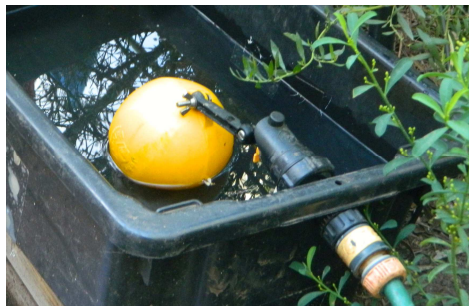


Step 8. Refill the storage container when the water level in the container has fallen to the same level as the outlet.



4. Key feature o Pitcher Perfect Irrigation for smallholders

- Unpowered
- Very low cost and simple to install
- For the same yield, Pitcher Perfect Irrigation uses less water than any other irrigation system
- Irrigate an unlimited range of crops at the same time
- Water usage responds automatically to changes in weather and crop requirements
- If you can afford a float valve, you can leave your garden unattended for months on end, and so you have time to go to the market to sell or exchange your produce



Pitcher Perfect Irrigation provides a DIY solution for food security for smallholders.