

BUILD A LOW-WATER 5-GALLON BUCKET GARDEN

Grow food on a deck, patio, porch—or anywhere you have sunshine!

A bucket-in-bucket garden stores water below the plant's roots. Water and nutrients that drain through the soil collect in the lower bucket instead of running away. Extra water flows through a tube into a jug and can be reused.

Save water. Reuse materials. Grow food.

YOU WILL NEED

Materials

- 2 clean, food-grade 5-gallon buckets
- Fiberglass window screen or a piece of old sheet
- About 6 inches of clear plastic tubing, ½-inch inside diameter
- Electrical tape
- 1½-inch screw
- Clean 1-gallon plastic jug
- Potting mix and compost
- Mulch
- Bricks or a cinder block

Tools

- Drill
- Small drill bit—about ⅛ inch
- 5/8-inch spade bit
- Measuring tape
- Marker
- Scissors
- Utility knife or sharp knife
- Safety glasses

BEFORE YOU START

Use clean, food-grade buckets for growing food.

Food-grade buckets are often available from bakeries, delis, and restaurants. UMD recommends checking for a food-grade label or food-safe symbol and warns against reusing buckets that previously held chemicals.

Never use a bucket that held paint, cleaners, chemicals, or other unsafe materials.

BUILD YOUR BUCKET GARDEN

1. MAKE THE SOIL BUCKET

Choose one bucket for the **top—or soil—bucket**.

Turn it upside down.

Drill a pattern of small holes across the bottom of the bucket.

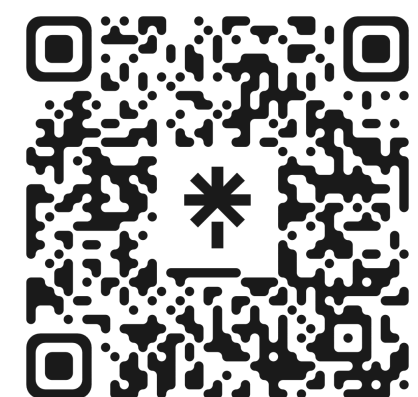
These holes allow water to drain and roots to grow toward the water reservoir below.



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2. ADD A SOIL BARRIER

Trace the bottom of the bucket onto fiberglass window screen or an old sheet.

Cut out the circle.

Place it inside the bottom of the soil bucket.

The barrier helps keep potting mix in the bucket while allowing water and roots to move through.

3. FIND THE WATER-RESERVOIR HEIGHT

Place the soil bucket inside the second bucket.

The space below the soil bucket becomes the **water reservoir**.

On the outside bucket, find the height where the bottom of the inside bucket rests.

Mark that height.

The overflow tube should be at the top of the water reservoir—not above the soil bucket.

4. DRILL THE TUBE HOLE

Put on your safety glasses.

At your mark, drill a **5/8-inch** hole through the outside bucket.

FINISH YOUR LOW-WATER BUCKET GARDEN

5. ADD THE OVERFLOW TUBE

Cut about 6 inches of **1/2-inch-inside-diameter** clear tubing.

Wrap electrical tape around the end as needed for a snug fit.

Push the tubing through the 5/8-inch hole.

Secure the tubing with the screw.

The tube carries excess water and nutrients out of the reservoir.

6. ADD THE COLLECTION JUG

Carefully cut a small X in the upper side or shoulder of a clean 1-gallon plastic jug.

Insert the overflow tube into the jug.

Place the bucket on bricks or a cinder block so the jug sits below the overflow tube.

Gravity allows extra water to flow into the jug.

7. NEST THE BUCKETS

Place the soil bucket inside the reservoir bucket.

Make sure it sits securely.

Your bucket garden is ready to fill!

ADD SOIL AND PLANT

8. MOISTEN THE POTTING MIX

Mix:

1/2 potting mix + 1/2 compost

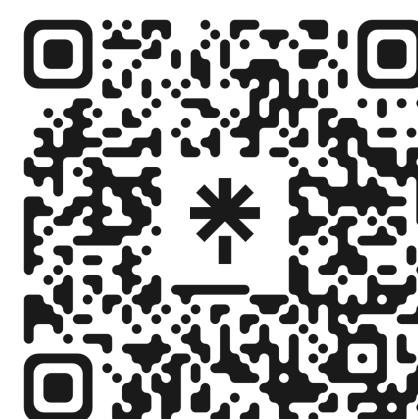
Add water and mix well.



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Remember:

Not dust. Not soup. Think wrung-out sponge!

Fill the upper bucket with the moistened mix.

Do not pack it into concrete. 😂

9. PLANT ONE LARGE VEGETABLE

A 5-gallon bucket works well for **one standard tomato, pepper, or eggplant plant**. UMD lists 5 gallons as the minimum container volume for standard tomatoes, peppers, and eggplants.

TOMATO: Remove appropriate lower leaves and plant the tomato deeper.

PEPPER OR EGGPLANT: Plant at approximately the same depth it was already growing.

Add support for tall plants when planting.

10. WATER THE BUCKET

Water the soil thoroughly from the top when you first plant.

Water will move through the soil and begin filling the reservoir below.

When the reservoir is full, extra water will flow through the tube into the collection jug.

Save the collected water and nutrients. Pour them back into the bucket the next time the plant needs water.

That reuse of overflow water and nutrients is the closed-system feature described by UMD's bucket-in-bucket design.

11. ADD MULCH

Cover the soil with mulch.

Keep mulch slightly away from the plant stem.

Mulch helps:

Keep moisture in

Protect soil from extreme temperatures

Reduce weeds

WATER THE ROOTS.

COVER THE SOIL.

DON'T WASTE THE WATER.

CHECK YOUR PLANT OFTEN

A “self-watering” bucket does not mean “never water it.”

Container plants still need their root systems kept consistently moist, and self-watering containers conserve water and nutrients rather than eliminating the need to water.

Check your plant and soil regularly—especially during hot, sunny, dry, or windy weather.

Pay attention. Your plant will help teach you how to grow it.

Based on the bucket-garden design developed by University of Maryland Extension and adapted through Growing Empowerment / The High Altitude Gardener for low-water container gardening.

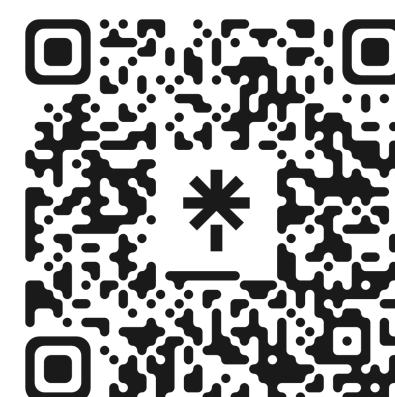
Grow food. Share knowledge. Build community.



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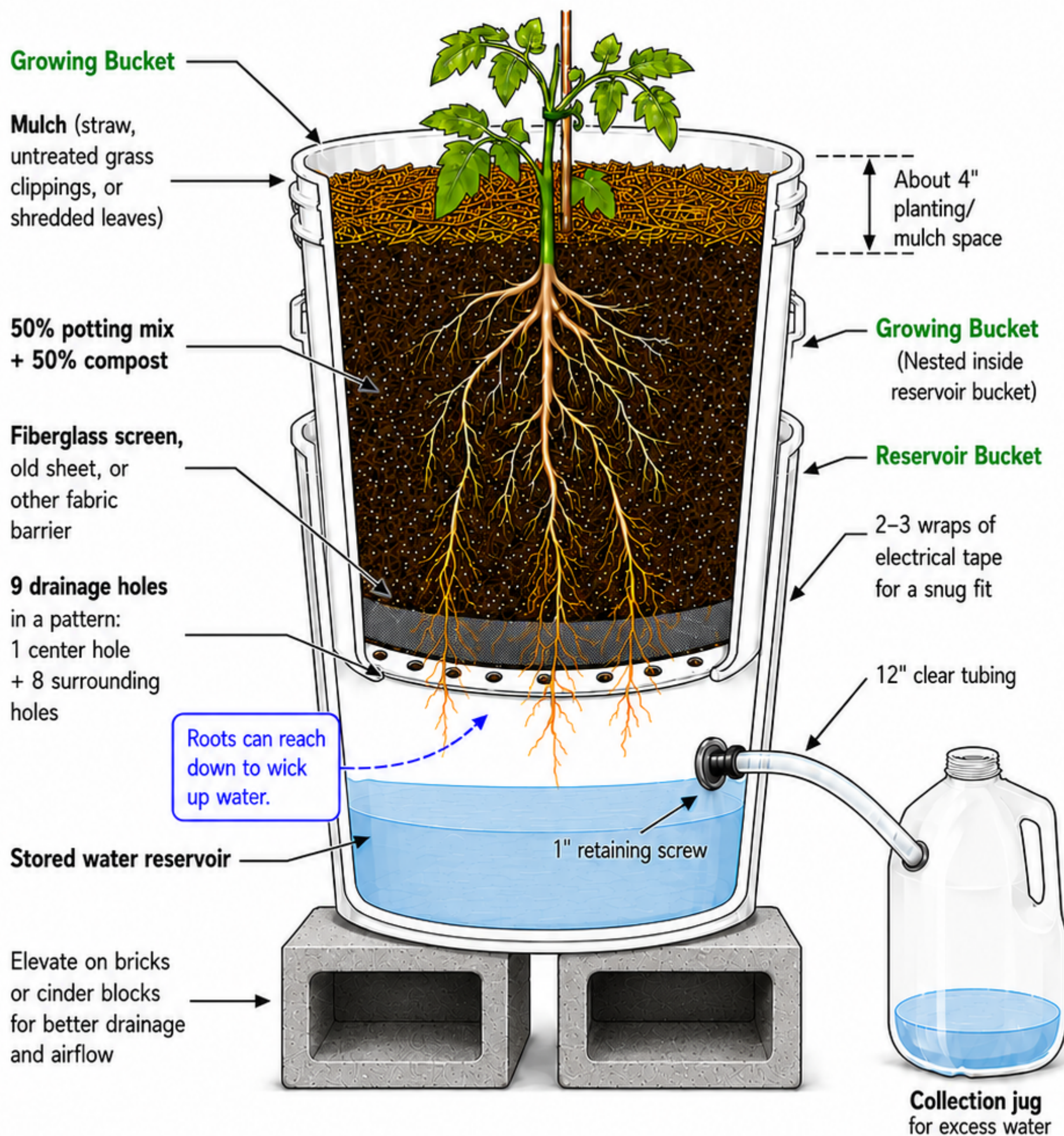
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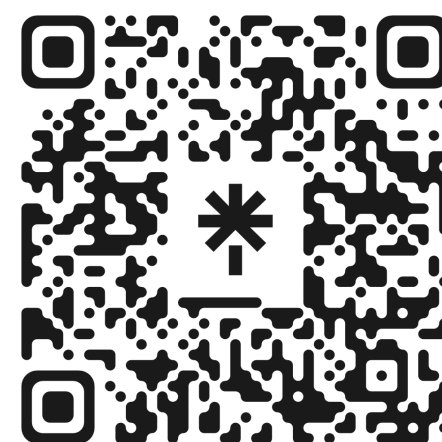
Low-Water 5-Gallon Bucket Garden

Cutaway diagram of the bucket-in-bucket system



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