ALASKA GROW BUCKETS

https://alaskagrowbuckets.com/

Designed by Jim Lister

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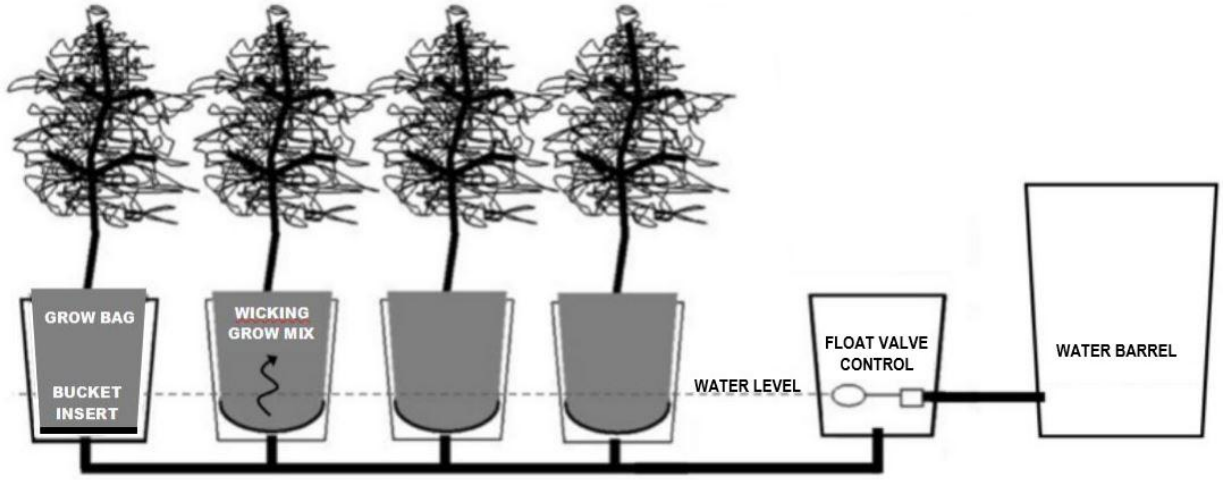
The **Alaska Grow Bucket** design is based on a **Sub Irrigated Planter** (SIP) that irrigates from below your plants and depends on a wicking medium to draw water up to the plant roots.

Several Grow Buckets can be combined in a system and connected to a water barrel for automatic irrigation. A float valve regulator is used to maintain the optimal water level throughout the system. As the water is drawn up and absorbed by the plants the float will drop and open the valve replenishing the system automatically. My system uses a 35 gallon plastic trash can that I refill once a week. See the detailed diagrams at the end of this guide.



The advantage of this system over other container systems is the lack of pumps and timers to circulate water. The lack of electric pumps means that power is not necessary. You can use this system anyplace you have a water source.

The first key to this system is the growing medium. It must have a strong wicking property. Soil or compost will not work. A soilless mix with the correct properties is necessary. I use a commercial product called PRO-MIX BX with MYCORRHIZAE. It consists of Canadian Sphagnum peat moss, Perlite, Vermiculite, dolomitic limestone, wetting agent, and Mycorrhizae. Other Peat based or coconut coir soilless growing mixes will also work – but the addition of perlite and dolomite lime is recommended.

The second key to this design is the fabric grow bag. The bags I use can be found at most supermarkets and are very inexpensive or free. The bags are made from spun polypropylene and should last for several years. Similar grow bags are available from nursery and garden suppliers. Canvas or burlap bags may also work – but they will eventually rot and fall apart. The porous fabric allows excess water drainage and aeration of the root zone which is necessary for optimal growing conditions. The system is also based on the principle of “air root pruning”. As roots grow out to the porous fabric they become exposed to air, dry out and die. This causes the plant to produce dense fine feeder roots and prevents root circling. The increase in fine feeder roots leads to better nutrient and water absorption and promotes accelerated plant growth.

The third key to this system is a plastic Bucket Insert, that will hold the fabric shopping bag off of the bottom of the bucket and create a shallow water reservoir in each grow bucket. This Bucket Insert is an improvement over a plastic kitchen colander that had to be trimmed to fit inside a standard 5 gallon bucke. The plastic Bucket Insert that I now recommend for the Alaska Grow Buckets fits perfectly without trimming.

The fourth key to this system is the 5 gallon support bucket with plenty of ventilation holes around the sides. The bucket helps support the fabric bag and the ventilation holes allow adequate air movement. This allows oxygen to reach the root zone which is essential for optimal plant growth. The bucket also acts as a water reservoir below the bag providing a water source for the wicking grow medium. By maintaining the proper water level with the float valve regulator the medium will never dry out and will continuously wick moisture up to the root-zone.

You can order all of the parts in one click to make a complete Alaska Grow Bucket System or just the parts that you need at the **Alaska Grow Buckets Store**

I encourage gardeners to find and re-purpose used buckets that are free or very low cost to help keep plastic out of our landfills. Look for the Type 2 HDPE symbol on the bottom to indicate the plastic is safe to use for growing vegetables. The lowest price I have found for new 5 Gal. buckets are the familiar orange buckets sold by Home Depot.

Tools

1. **¾" Step Drill bit**
2. **Electric drill**
3. **4" Hole saw**

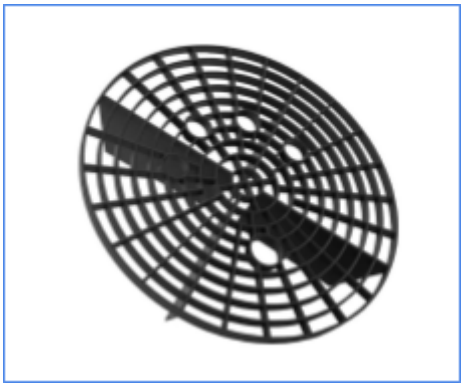
Construction

1. Drill a series of 3/4 inch holes in the bucket as illustrated. Drill as many holes as you like starting 6 inches from the bottom of the bucket. These holes along with the porous fabric bag provide air to the root system and that is the key to this design.

2. The lower portion of the bucket has only one opening. This is the water reservoir. You will drill one hole at the very bottom, with your step drill bit for your fill hose fitting.

3. Insert a ½ inch barbed hose fitting to the grommet. This should provide a snug watertight fitting. I prefer the T fittings for connecting several Buckets into a system.

4. Place the special **Alaska Grow Buckets** plastic Bucket Insert inside your bucket.



5. Place the fabric bag inside the bucket. I trimmed off the shopping bag handles.

6. Add water to the bottom of your bucket and begin adding your growing mix. Excess water will drain out of the rubber grommet at the bottom.

7. Fill the bucket in layers and soak each layer well to activate the wicking property of your soilless mix. Dry mix will not work.

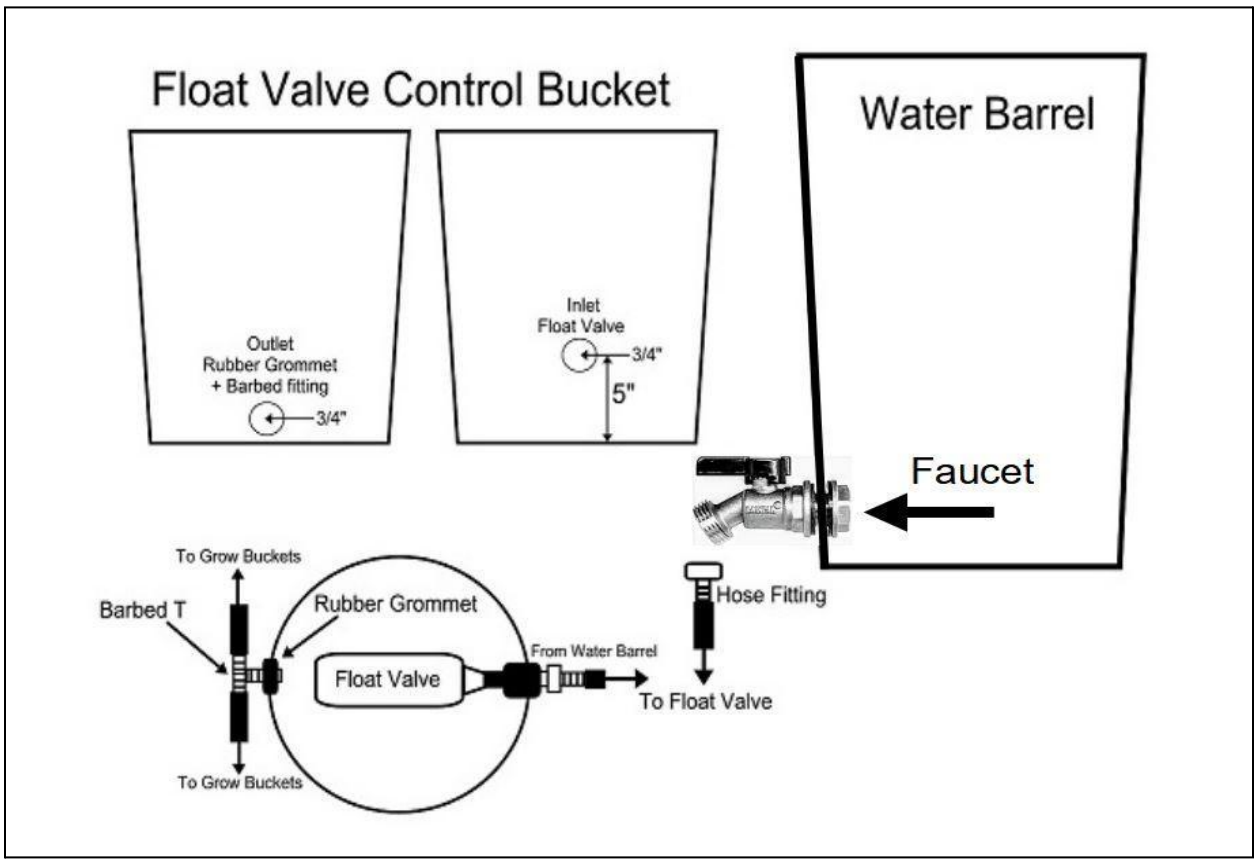
8. Add a layer of slow release natural fertilizer to the bottom layer of grow mix.

9. An additional ring of fertilizer should be added near the top.

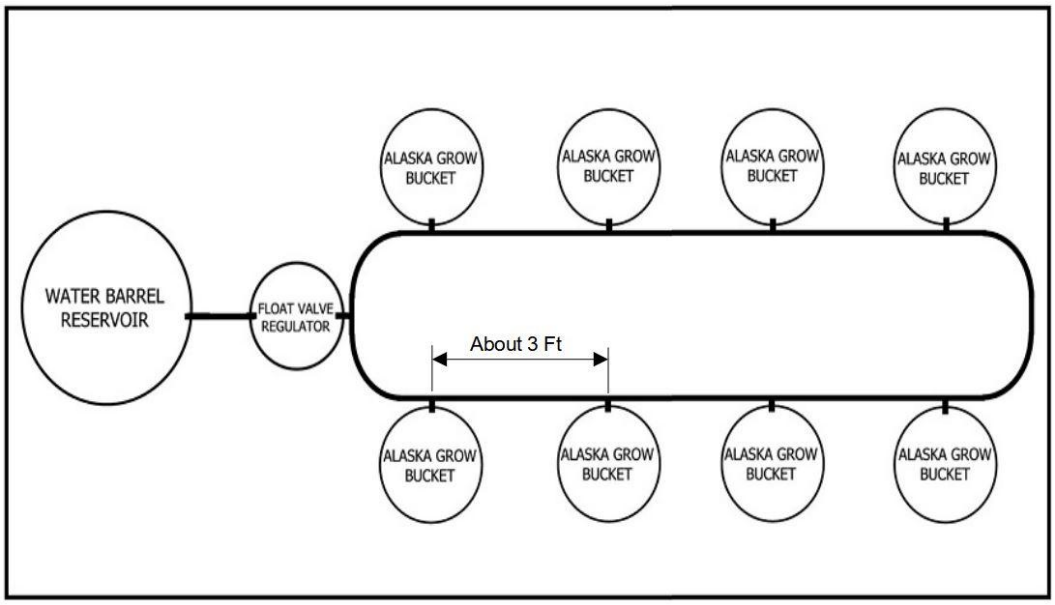
10. Continue adding layers of grow mix and wetting down with water

11. I have since replaced my plastic sheet covers with bucket lids that I cut out with a 4” hole-saw and then cut in half for easy attachment when planting.

The key to setting up an **Alaska Grow Bucket multi container** system depends on a simple float valve regulator and a water barrel for automatic watering.



You can add as many Grow Buckets in your system as space allows, but remember to leave enough space for the plants to grow with adequate air movement for ventilation and to remove excess humidity. Overcrowding impedes ventilation and promotes the spread of fungal disease and blocks light transmission within the plants.



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Self-Watering Garden System

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