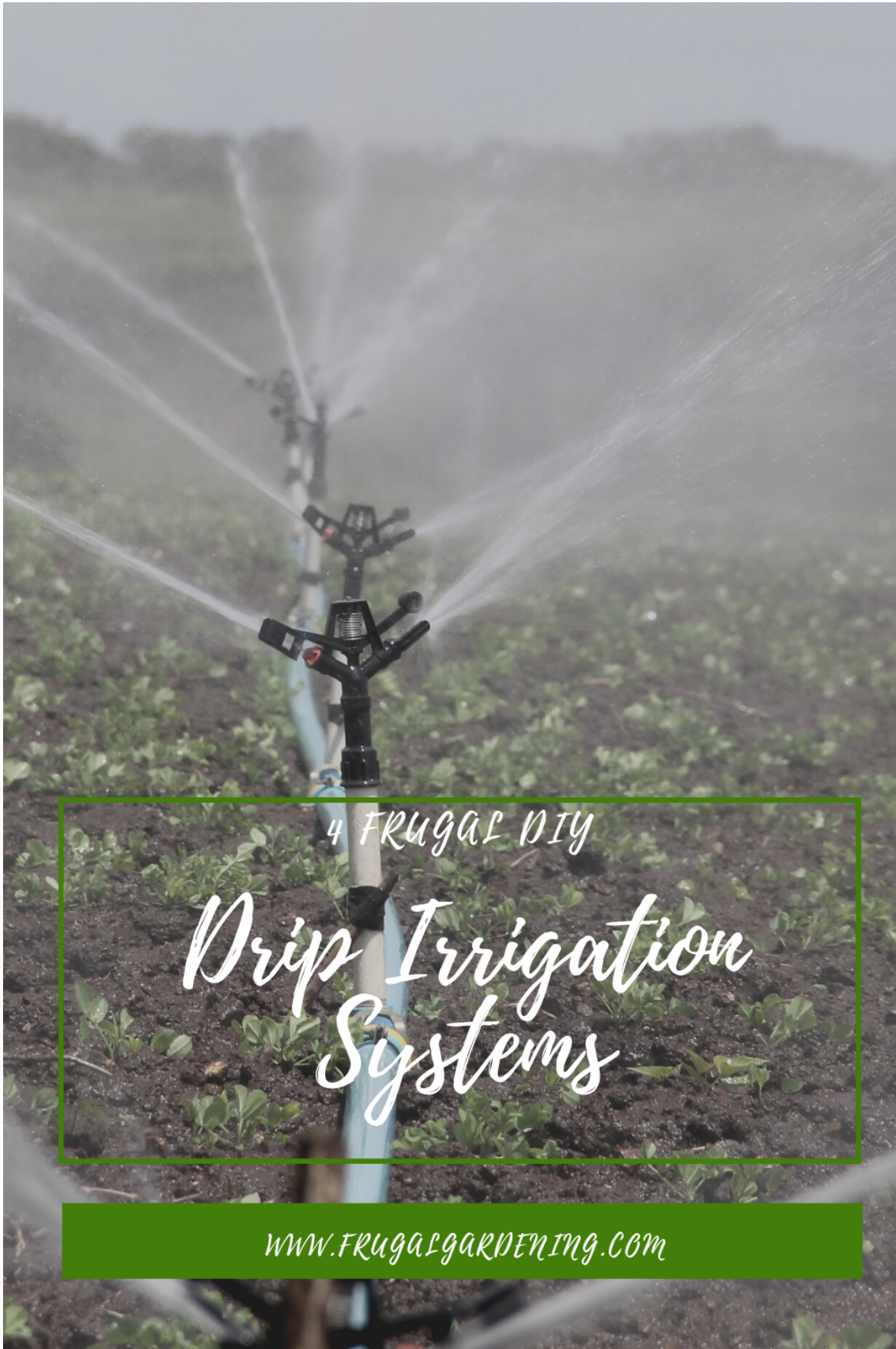


# 4 Frugal DIY Drip Irrigation Systems



4 FRUGAL DIY

# Drip Irrigation Systems

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Buying a fancy drip irrigation system is one way to go. But it'll cost you. Instead, consider a DIY drip irrigation system. Either way, you'll need to spend time installing

irrigation, so why not save a few bucks, too?

## Benefits of drip irrigation

You've got a hose or a sprinkler, so why invest time and effort into building a DIY drip irrigation system?

Here are the advantages of this type of watering system:

- **Less water waste.** Water doesn't evaporate as readily with a drip irrigation system.
- **Targeted watering.** Because the tubing is close to plant roots, water gets right to where it needs to go—which means less waste and higher efficiency watering.
- **Less disease spread.** With drip irrigation, water is unlikely to splash onto plant foliage. That means fewer chances for contaminated soil to spread pathogens.
- **Easy watering.** Once installed, an irrigation system makes watering incredibly easy. No more lugging around a heavy hose. You can even install a timer and have the system work completely on its own.
- **Fewer weeds.** Because water goes right to plant roots, weeds are less likely to grow between plants.

## DIY drip irrigation systems

You'll need to spend a bit of money on materials to build your DIY drip irrigation system, but the initial cost is worth it, considering how much time you'll save down the line.

Here are some ideas for creating DIY drip irrigation systems:

- **PVC pipes:** Modern Farmer has a great [step-by-step tutorial](#) for creating this kind of drip system.
- **Soda bottles:** This is an easy drip irrigation system for the frugal gardener that costs next to nothing. It's a

great option for small space gardeners. Here's a video on how to use soda bottles to create a cheap drip irrigation system:

- **Rain barrel system:** Here's a video that shows you how to use a rain barrel in a drip irrigation system to minimize water waste:
- **Bucket:** Got a bucket? You're in luck! You can build a simple DIY drip irrigation system easily. This video shows how you can pair drip tape or tubing with buckets to create a low-tech irrigation system that doesn't require a hookup to a nearby water source:

This setup is even simpler:

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## 5 Factors That Affect Plant Growth



Many factors affect plant growth. Plants have a few basic needs. Having these needs unmet will cause them to perish. There are also factors outside of a gardener's control that

can impact how well a plant grows. While some variables are out of your control, there are things that you *can* influence.

## **What affects plant growth?**

Plants need several things to stay happy. If you have the ability to control these variables, doing so can help your plants thrive.

### **Sunlight**

Sunlight is the lifeblood of a plant. Without it, plants die. Sunlight enables photosynthesis, which is the process that allows plants to process nutrients. Without sunlight, they can't properly take up nutrients. Some plants need more sunlight than others and providing your plants with the right amount of sunlight is key. Giving plants like lettuce too much sun can cause them to wilt, bolt prematurely, and wither. Not giving enough sun to plants, like eggplant, can stunt their growth and diminish overall yields.

### **Water**

Honestly, this is probably the most confusing task for gardeners to get right. Even the most experienced gardeners sometimes over or under water their plants. It's one of the important factors that affect plant growth. When you're gardening outside, Mother Nature does some of the work for you. Indoors, it's all you, baby. Either way, watering is a bit of an art. Without water, plants will eventually die—even the most drought tolerant. Outside, mulch is a helpful way to retain moisture. Irrigation systems can also help you water deeply and consistently—and waste less. Inside, I highly recommend getting an app that reminds you to water on a schedule or creating a makeshift calendar of your own. Watering plants that have different moisture needs on the same schedule is a recipe for disaster.

### **Air**

Plants are a lot like people. They don't like being squeezed together like sardines. Pack them too close, and you can encounter problems like stunted growth, pests, and disease. Space plants accordingly to prevent overcrowding. Keeping them spaced apart helps improve air circulation, which will reduce instances of disease. It'll also give your plants plenty of room to grow. If you're a patient person, you can try an experiment. Plant squash close together instead of following seed packet spacing guidelines and plant them in another area where they have plenty of room to breathe. You'll see a noticeable difference in how they grow.

## **Temperature**

Out of all the factors that affect plant growth, this one can be tricky to control—especially outdoors. The weather can be unpredictable. Sometimes, even the most diligent gardeners end up with dead or sickly plants on their hands because an unexpected frost occurs. You can use crop protection and other tricks to play around with [temperature](#), but when it gets really cold, there's nothing you can do to stop the freeze. When [starting seeds](#), getting the temperature right is key. Tomato and pepper seeds, for instance, won't even germinate if the soil is too cold.

## **Nutrients**

Plants need food to survive. Often, good quality soil that's amended yearly contains plenty of [nutrients](#) to get you through a vegetable gardening season. However, that's not always the case. Poor nutrient uptake can happen for several reasons, including inadequate pH and environmental conditions. Without the right nutrients, plants can become diseased and stunted and provide a diminished or non-existent yield.

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# Harvesting Rainwater for the Frugal Gardener





*HARVESTING RAINWATER*  
*for the Frugal*  
*Gardener*

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Gardening requires quite a bit of water. For many gardeners

that means an increase in their water bill during the [hot summer](#) months. Statistics show that lawn and garden watering make up at least [40%](#) of our total household water use. Frugal gardeners, however, can take advantage of rainwater by bringing back an age-old, low-tech system of collecting water from roofs and gutter systems into rain barrels, or cisterns as they have been called. By harvesting rainwater, you can keep your little corner of the world green, decrease stormwater runoff, and cut costs all at the same time.

## Harvesting rainwater

One inch of rain on a 1,000 square foot roof will produce 600 gallons of water. Capture just some of that chemical-free rain in a container of any kind and you'll be able to keep your veggie garden thriving and your flowers blooming all season, with no added expense. Your plants will thrive with the natural rainwater compared to water from municipal systems and the chemicals they typically add. Rainwater is a free source of soft water and also excellent for your houseplants.

Most rain barrels now come with the fittings for hooking up a hose, so getting harvesting rainwater is as simple as locating a barrel under a gutter and screwing in your hose. If you have a very small garden plot, or only use small containers, you can opt for a simpler system. Locate a barrel under a downspout and just dip your watering can in when you are planning to water your plants and containers. Each time it rains, you can store water up for the dry days or days you can't water due to summer rationing schedules.

Due to the amount of water coming off a roof, it is important to have a plan for overflow. It's important to have a valve to switch tanks. You can also go low tech and manually move the downspout away from the already full barrel to keep from having a mini Niagara Falls next to your buildings' foundation.

As with anything that holds water, be sure your system has a child-proof, secure lid to prevent accidents. You might also want to screen the opening to your container, not only keeping debris out of the water but discouraging mosquitoes from breeding.

## Where to get a water barrel?

Here's a list of a few of the companies that carry water barrels and supplies to help you set up a water storage system. Remember, your system for harvesting rainwater can be as simple or as complex as you have time and money for. Just the savings from setting up one downspout and a barrel will make a difference. What frugal gardener doesn't want to tap into a free resource?

- [Clean Air Gardening](#)
- [NE Design](#)
- [Midwest Internet Sales](#)
- [Spruce Creek Rain Saver](#)
- [Garden Water Saver](#)

## Check local regulations

Before purchasing anything, be sure to check with the water department where you live to see if they are sponsoring a [Rain Water Harvesting project](#). Many cities encourage the installation of rain barrels as a method of conservation. They may offer the barrels at a reduced price or give rebates if you purchase your barrel elsewhere. Some towns even offer workshops and supplies to build your own systems.

Rain barrels are one of the simplest, cheapest ways to conserve [water](#), allowing you to treat rainwater as a resource and not a waste product. Harvesting rainwater on your property can help make your garden a more environmentally friendly space.

Installing a Rain Barrel

Rain Water Harvesting

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# 5 Plants That Easily Grow in Water



5 PLANTS THAT

# *Easily Grow in Water*

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Potting up plants is a messy business. Even when I'm being careful, I manage to get soil everywhere.

One of my favorite plants in my home, though, requires no soil at all. I bought the plant at the grocery store several years ago for about \$3 and today, it's almost as tall as me! All it needs is water to flourish.

Sounds too good to be true, right?

But I'm absolutely serious. It's possible to grow plants without soil. This is something that air plant enthusiasts already know. There are a host of plants that grow in water.

## Plants That Grow in Water

Most people think of houseplants as soil-bound creatures, but not every plant needs the earth to survive. Many plants actually thrive in water. Here are five plants that grow in water.

### Lucky Bamboo

My [lucky bamboo](#) plant is my pride and joy. I brought it home several years ago and never thought it would become as big as it has. I simply filled up a vase with rocks and pebbles, set the bamboo inside, and topped it off with water. The plant has been growing like a weed ever since! While some sources might caution against using regular ole' tap water to satisfy a bamboo plant's thirst, my plant has gotten by just fine with it.

Did you know that lucky bamboo is also pet safe? It's an ideal low-maintenance plant that's non-toxic to dogs, cats, and birds.

### Pothos

Also known as Devil's Ivy, this trailing plant grows exceptionally well in water. Unlike bamboo, though, pothos plants require some fertilization. Any all-purpose liquid

fertilizer should do the trick. In my experience, pothos plants don't need too much attention, so they're another excellent choice for busy plant lovers.

## **Philodendron**

My heart-leaf [philodendron](#) is one of my favorite houseplants because it requires so little care. It's a stunning hanging plant that does well in water. If you plan to grow it in water, though, make sure to change the water frequently and check for algae growth.

## **Dracaena**

This woody-stemmed plant is also well suited for growing in water. Filtered water is best, and it should be changed frequently to prevent algae growth. It's a fairly big plant, so pick out a large vessel to support it.

## **English Ivy**

It's possible to grow English ivy cuttings in a glass jar or vase. It'll take a long time before the plant is ready to transplant into soil. It's a quick-growing trailing plant, so it's great for hanging planters. Add ivy to the top of a bookshelf and let the vine trail down for a wild effect.

## **Propagation**

You can also propagate many indoor plants using water. This entails taking cuttings from an existing plant and rooting the piece in water. It can take some time for the roots to develop, but once they do, you just need to plant the piece in soil.

It's an easy way to create more greenery for your home. You can also propagate new plants to [share](#) with friends and family. Some people also like to swap cuttings by mail.

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# Keep the Garden Well-Watered: 5 Tried & True Tools



Years ago, when, with the help of my dad, I started my first vegetable garden, I was vaguely aware of the importance of watering plants. I watered whenever I felt like it, and whenever it seemed like my plants yearned for moisture—it turns out many of the symptoms of [overwatering](#) and under watering are shockingly similar. I struggled to keep the garden well-watered.

## Watering Epiphany

One of the main reasons for my irregular watering schedule was that my garden was tucked away in the depths of the yard, and getting there meant trekking out with shoes and lugging the



heavy hose to where it was needed. It was an ordeal. When I moved out of my parent's home and created a garden plot of my own, I watered here and there but didn't start really soaking my plants until a year into things. I quickly realized that my haphazard watering wasn't going to cut it in this new patch of dirt. The spot, blessed with sun, dried out a whole lot quicker than in my very shaded garden of yesteryear.

## **Tried and True Watering Tools**

I've spent a couple of years fiddling with water implements and figuring out the best solution for my little garden. Here's what I've found works for me.

Keep your garden well-watered with these must-have supplies.

### **Expandable hose**

They're typically cheaper than a traditional chunky, cumbersome hose and are easy to carry around the garden. At the end of the season, it's super easy to pack up the flexible hose and toss it into the bin of supplies that will head to the basement for the winter. The drawback is that flexible hoses are less durable, but if you're careful and take good care of your watering implement, it should last a few seasons. There are also plenty of high-quality flexi-hoses with triple-layer protection, though they typically cost more. Buy one with a sprayer attachment that features multiple settings. Use the misting setting on tender [seedlings](#) and the soaker setting to water plants deeply from below.

### **Watering can**

I use a super durable plastic watering can. It's been around for years and hasn't failed me yet. It's helpful for watering areas where the hose doesn't reach and for watering when the water is shut for the winter.

### **Mulch**

[Mulch](#) won't provide your crops with water, but it conserves moisture exceptionally well. Without mulch, my topsoil dries up super quickly—even if I water at regular intervals. There are plenty of cheap and free mulch options, including grass clipping, leaf mold, and shredded cardboard or newspaper. My preference is straw, but it's not always readily available.

### **Soaker hose**

I tried a fancy irrigation set up in my raised beds years ago, and it was an utter failure. The hoses got in the way of my footpaths, and it was more trouble than it was worth. That doesn't mean I completely gave up on irrigation. I recently installed soaker hoses in some of my ground-level beds, where I plan to plant [perennials](#) and other easy-to-maintain plants. Currently, only the hardiest of plants survive there because of the lack of water. The roof overhang blocks the rain and getting the hose there is a pain in the butt, so I use soaker hoses to water the area.

### **The weather forecast**

Overwatering can be as problematic as under-watering, so while you must give thirsty plants sustenance, it's also wise to check the weather forecast before dumping a whole gallon of water into your beds. Don't waste this precious resource if it's looking like a rainstorm is on the way. Unless your plants are begging for water, it can wait.

*Do you have any favorite watering tools? How do you keep your garden well-watered? Are you fond of any watering tricks that have netted you lush, bushy plants year after year? I'd love to hear your water-wise tips! **Share them with me in the comments.***