

# Automatic Watering Systems for Cheap!

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by Larry Coble

This week I have been asked to write something up concerning automatic watering systems. Keep in mind that I am writing based on my knowledge of their use in the southeastern United States and what works here in South Carolina may have to be altered for colder climates.

People call me Frugal. That's because I tend to watch my expenses rather closely. However, when it comes to installing an automatic watering system you'll actually save money so it isn't an expense. How is this so? For one thing, those time-eating water bottles people are so fond of cost more than an inexpensive automatic watering system. Secondly, those water bottles eat up much of your time which could have been better spent improving conditions in your rabbitry, building more cages, or simply enjoying your animals. Third, I believe a good automatic watering system will get more water into your rabbits which improves all aspects of their nutrition utilization and also saves you money.

Let's look at how you can install a low cost, entry level automatic water system in your barn. After you use the system for awhile you may find that you wish you'd done something different. Not a problem, your cost to redesign this system will be minimal so don't worry about that now.

First, get an idea of where you want to run your PVC piping. I have cages back to back so I ran mine right down the backside of the cages (actually through the cages themselves). This allowed one pipe run to serve two rows of cages. Other cage arrangements may necessitate a different pipe routing arrangement. No matter though, you'll find that PVC piping is cheap enough. Do try to afford yourself some degree of access or ability to make future repairs. For instance, I wouldn't place pipe on a wall and then securely fasten cages over the pipe preventing me from accessing the pipe in the future. Instead try to run the pipe after your cages are in place.



If you have water already run to your barn you're ahead of the game! If not don't despair, you can still have an automatic watering system but you will have to bring over the garden hose every day and fill it. This may sound like a bit of a hassle but it's not so keep reading.

To contain costs we're going to use gravity to reduce the pressure from the home system to the rabbitry water system. Find a place to place a used, but clean five gallon

bucket with lid (cost \$0) about 4 - 6 feet above the cages. If the bucket can be placed inside to protect it from the heat or cold that's best and your bunnies will appreciate your efforts. After you've built a stand for your bucket make sure you have access to the bottom of the bucket for water lines to enter and exit. Take the bucket down now and install a floatless commode shutoff (like you use in your home - cost about \$7.00 at Lowes) inside the bucket. You'll have to cut a hole on the bottom of the bucket and use the rubber grommets that come with the commode shutoff to make sure it doesn't leak (get some extra rubber washers while at the hardware store for cheap). Place the bucket back up on the shelf and see where you need to place your supply line to the cages. Mark this spot on the bucket and take the bucket down again. Make another hole in your bucket and use some 1/2 inch PVC pipe connectors (cost approximately \$3.00) and some more rubber washers to make a water tight connection. I used 1/2 schedule 40 PVC pipe and connectors. If you use schedule 40 do make sure you get the thick type and not the paper-thin type because you'll need the thread depth when installing the nipples later. Now place your bucket back up on its shelf and connect to your home water supply. Place a cut off valve (I used a ball valve - cost \$3.50) between your home water line and the bucket to allow you to cut off the water and do maintenance on your system from time to time. You may also wish to use a check valve (one-way valve) to prevent chance of backflow into your home system if warranted.

Take a break from the bucket job and run some PVC pipe around or through the cages. I used 1/2 inch, schedule 40 but it was the thicker schedule 40 not the paper thin type (cost is about \$2.00 per ten foot section). I was thinking of switching to schedule 80 at some point in the future to add some extra strength at times when the weather gets down to 10 degrees at night. Anyway, pipe and pipe connectors are pretty cheap and you'll actually find gluing them together with connectors to be kinda fun if this is new to you. Cost will depend on your design but it's cheap, quick, and easy.



Hang your pipe first - DO NOT drill holes first. I've found there is nothing gained by drilling first - only frustration when things don't line up right later. Place your pipe at least 8 inches high in the cage. Sounds high but it's not. Secure your pipe to the cages. I used some wire clips from Klubertanz designed to hold electric fencing to fence insulators. A box of 200 or so of these was about \$2.00 and saved me a lot of time and the hassles of cutting, bending, and twisting wire.



Make sure you place a spigot (\$2.50) at the end of the run for drainage. This can also be used to let the water drip overnight to prevent freeze ups on cold nights; or allowed to trickle in the summer to keep the water fresh and cool.

After all the pipe is in place get that soldering iron out and go cage to cage placing a pilot indentation at the place you want the nipple. Be generous with your indentation. Also angle the pilot indentation such that the nipple cants

downward so water flows into the rabbit's mouth thereby increasing their intake.

After placement of the indentations come behind with a drill. A 3/8 inch bit works perfect for the screw in nipples I get from Klubertanz (spring loaded nipples are approx. \$1.45 ea.). Hold the drill at the same angle as you did the soldering iron. Do not wiggle the drill around or you will have an oval hold which will not work. Clean up any plastic waste material on the outside of the pipe with your fingers or gently scrape off with a pocket knife or small rat tail file. (We'll get the trash out of the inside of the pipe in just a minute.)

Now, connect your line from the cages up to the bucket. Open the spigot and your supply shut off valve and let the system flush the trash out. We're almost done!

Cut off the water and use Teflon tape (\$1.95 per roll) and wrap each nipple's threads several wraps before threading them on. Use some finger effort to keep them perpendicular to the pipe. Once they take a path with your finger work doing the pushing and screwing they will maintain that path. Use a 7/16 inch wrench to tighten but do not over tighten!



After all nipples are in place open your spigot and flush again for several buckets worth to get additional waste out. Close off spigot and check for leaks. Very small leaks may heal themselves over a day or so. If you still have leaks then shut the system off and drain before doing repairs. Unscrew problem nipple and remove Teflon tape, reapply new Teflon tape and use some pipe putty (looks like caulk) around threads as well. Reinsert nipple and fill system again. If worse comes to worse and you mess up a hole

then have a pipe saddle ready to use (cost for saddles is 45 cents ea. at Klubertanz). You'll find that your pressure can be regulated by adjusting the water level in the bucket - higher level equals more pressure.

Some things to think about:

1) Your rabbits now share a common water source. You still need to spend some time on watering your rabbits after your system is installed. Flush your system regularly. In warm water that means I open the spigot daily and flush for a few minutes. They make disinfectant for system flushing (I've never used) but a keen eye and regular flushing will do wonders. If you are on city water and have chlorine in your water you will probably not have as great a need for maintenance.



2) In cold weather let your spigot drip or run to prevent freeze-ups. If it going to be really cold drain the system overnight. You can purchase recirculating pumps and install but that's for the high end system users. They also make heat cables.



3) Save some of those water bottles. I have been caught needing them when weather dropped to 20 for several days in a row. Watering your rabbits with bottles in 20 degree weather will remind you of why you installed the automatic system .



4) Don't take the system for granted. It will be very easy to forget watering rabbits once your system is installed. Don't do this! Get a stick and periodically manually push on the nipple making sure it is functioning. Also, rabbits won't eat if they do not have water. If a rabbit appears off feed the first thing you should check is the water nipple. Have a few extra nipples on hand for quick, easy change outs.

That's it in a nutshell. You're cost will vary according to the size of your rabbitry. Costs for my 30 cage rabbitry ran approximately \$75.00 which makes you want to say "Ouch," at first but costs for bottles would have been over \$100.00 and I have much, much more time to enjoy my rabbits and time to save costs elsewhere. I even sold some of my old bottles and re-cooped some of the costs. I hope this helps encourage others to transition to an automatic water system. Improvements can be added as your rabbits can afford; getting the system up now will start your benefits today!

Larry Coble is owner of Hotel Californian Rabbitry in South Carolina. Larry also hosts two Yahoo Groups 1) [the\\_rabbit\\_market](#) for news and information pertaining to the marketing of meat rabbits in North Carolina, South Carolina and Georgia 2) [rabbitbookcollecting](#) for individuals addicted to the hobby of collecting older books on rabbit raising. In his spare time Larry hunts for information on the historically elusive Astrex Rabbit brought to America in the 1940s.

