

No Dig, No Hassle Pvc Garden

When Major C.T. Davis decided to plant a garden, he mounted pvc pipes on posts and filled them with dirt.

"I didn't want to tear up the lawn," explains Davis. "It works great, and I don't have any problems with rabbits or other pest animals."

Davis set two 4 by 4-in. treated posts in concrete for vertical support for two 6-in. pvc pipes. He drilled 2-in. diameter holes at 1-ft. intervals and filled the pipe with Miracle Grow potting soil. He then planted a seedling in each hole and watered. He also hung grow-bags for strawberries and tomatoes from the tops of the support posts.

"I tied support poles for the plants to the pvc pipes using weed eater cord," says Davis.

Now in its second year, Davis says the system is ideal for tomatoes, peppers and other

non deep-root crops. It's also very stable.

"We had 70 mph winds this spring that broke off a few plants, but they didn't bother the pipes at all," he says.

He says his plants start producing a crop earlier than plants in the ground and continue producing later into the fall.

"I am considering taking them into the basement this fall and using my grow lights on them," he says. "If it works, I could start new plants in them next spring and move them outside without any transplant shock."

One negative to the pvc garden is the need to water almost daily. Davis is looking for solutions to that and is considering running a soaker hose through the pipe next year.

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"With an elevated garden, rabbits aren't a problem," says C.T. Davis, who mounts pvc pipes on posts and fills them with dirt.

Steam-Powered Generators Going Strong

Wes Gordon's steam powered generators are more user friendly and easier to operate than when they were first featured in FARM SHOW nearly 5 years ago (Vol. 29, No. 6). Designed for off-grid use, his SteamGen trailer-mounted units run on wood or anything else that burns.

"I have a new, lower pressure boiler that weighs only 300 lbs. and can be taken apart with a few screws," says Gordon. "The weak link in steam boilers is the copper tubing. If a boiler tube ruptures, it doesn't create real damage, but it has to be replaced. I can stop at any hardware or ranch supply store and get copper tubing and a flare tool and within an hour be making power again."

Gordon has installed drain valves throughout the system. Using residual system heat and pressure, opening the valves removes even water vapor. This eliminates any cold weather freeze-up concerns.

Gordon also added a grease zerk to the steam inlet pipe. This allows him to inject 600-weight oil (heavy enough to use in a grease gun) for lubricating the engine. To handle the backpressure, he installed a hydraulic check valve, and to handle the temperature, he installed an extension to the zerk.

The next step for Gordon is to find lower cost components. His 7 kW generator currently costs around \$25,000, which he acknowledges is too expensive for many to justify. If he can locate a properly certified

manufacturer in India, he expects to reduce that cost by 75 percent.

"My goal is to get the retail price down to \$5,000," says Gordon.

He also is experimenting with using exhaust steam. At their best, steam engines are only 23 percent efficient. If the exhaust steam can be used for heating or processing, it enhances the economics of electricity generation.

"I ran exhaust steam through 50 ft. of half-inch copper tubing in a 55-gal. drum filled with 45 degree water," says Gordon. "Running the system at half throttle, the exhaust heat had the water at a roiling boil in 10 min. My 7 kW unit generates 700,000 btu's of recoverable heat."

Gordon suggests running exhaust steam through a closed system such as radiators or an in-floor heating system as one customer does and then back to the boiler. This not only captures the heat and water, but also improves system efficiency by about 20 percent. It also eliminates rust causing oxygen from the system.

Gordon uses his SteamGen unit to power submersible pumps, his home and workshop, and to charge a 1250-amp forklift battery. The pumps fill 4,500 gal. of water storage on a hill above his house. Power from the battery is run through an inverter to provide AC power for his house and shop when the generator isn't running.



Trailer-mounted, steam powered generator runs on wood or anything else that burns.

"I can generate power for 8 hours and then go for three weeks without running it again," says Gordon. "That's without changing my lifestyle in any way, using power tools in the shop and all my appliances."

Gordon encourages potential customers and interested parties to visit his website for

product information as well as the pros and cons of using steam.

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He Loves His ATV Sound System

Whether he's at work or play, Norm Belanger's "sound system on wheels" brings him a lot of enjoyment.

The Pickardville, Alta. man loves music and he loves using his ATV, so it just made sense to equip it with a sound system he can drive around with.

The sound system was designed and built by his friend, Norm McGregor, of Stony Plain, Alta.

The system is made from simple materials including 6-in. sewer pipe, a small 240-watt amplifier, and 2 waterproof marine speakers. It's strapped with bungee cords to the ATV's front carrier rack and is entirely waterproof, thanks to glue and silicone sealant in the joints. Belanger simply plugs his iPod into the front of the speaker system and then stores it in a waterproof compartment in his Suzuki Kingquad 4x4 750 Axi.

"To build the speaker system, I used a 2-ft. section of 6-in. dia. sewer pipe with a matching elbow on each end," McGregor explains. "I put the amplifier inside the straight section. The speakers fit perfectly in the open elbow ends. The materials cost me about \$250 and it required about 10 hours of assembly."

He also bolted a boat dock cleat to the top center of the unit (sealing it with silicone so it doesn't leak) – this was originally intended for wrapping the iPod connection cord to, but McGregor realized that it also works great for carrying the system from one rig to another.

Added features are a red light that shows when power's reaching the unit, a green light that indicates there's power going to the amp, and a switch for turning the amp power on and off.

Belanger likes to blast music during recreational rides, pointing out that it's handy in the mountains for scaring off bears, cougars and the like. He also mounted a bear (air) horn on the front carrier for added protection.

According to the country music fan, it's nice to have a little background music at family picnics, and he uses it while working with his quad.

"This system would work great on a boat or for using in parades, too," Belanger says. "It's definitely a conversation piece."

McGregor has built several of the units so far and says he's going to be selling them for \$450 (Can.) plus S&H.

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ATV-mounted speaker system uses a section of 6-in. dia. sewer pipe. Amplifier fits inside pipe's straight section, and speakers fit into the ends.

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