EQUIPMENT TECHNOLOGIES ET

Building a Nurse Trailer

Step by step instructions to build a cost saving application asset

What's Inside

The ability to fill a sprayer's product tank in the field saves time and money. Nurse trailers make spraying more efficient by reducing time and gas spent driving to and from the field to refill. Buying a new nurse trailer can cost just under $10,000, but you might be able to build one from pieces you already have around the farm. In this paper we will describe the materials and process required to build an efficient nurse trailer.

States enforce different laws when it comes to transporting chemicals. Ask local law enforcement for a complete listing of the laws applicable in your state and follow them when building your nurse trailer.

Materials Needed

Since no two fields are alike, building a nurse trailer may require items specific to the needs of your application operation. However, constructing a nurse trailer should include the items on the list below:

- An elliptical tank or a horizontal leg tank larger than your sprayer's tank
- A low bed iron frame trailer with durable wheels and axels
- A clevis hitch to transport the nurse trailer
- A sight gauge
- A mix-and-fill style inductor if not included
- A transfer pump with a small horsepower engine, hose, nozzle, and flow meter
- Fenders to provide footing when using your nurse trailer
- Brake lights for towing the trailer on the road

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Steps for building the nurse trailer

Take a close look at the list of items needed to build a nurse trailer to determine what you already have on hand. To order items you still need, check SpraySmarter.com, which carries most of the required items and offers same-day shipping 97% of the time.

Trailer

The tank itself must sit on an iron frame trailer or in a sturdy box truck. We recommend a low bed with strong axles and durable wheels to handle the weight of a full tank, but you may also use an enclosed semi-trailer or a bed large enough to haul the sprayer on the trailer as well to the field as shown above. Purchasing a trailer or truck bed could cost you anywhere from $10,000 to $40,000, but it is the nurse trailer components you are most likely to have already. Be sure to leave enough room on the trailer for everything needed, including the transfer pump, inductor, and possibly a box for tools and spare parts needed for common maintenance in the field.

Make sure the clevis hitch on the trailer works properly. An old or incorrectly installed hitch can damage the vehicle towing the trailer and the trailer itself. New hitch pins can be found here.

Tank

Why use a 500 gallon nurse tank when your sprayer holds 1,200 gallons and a 3,250 gallon tank from Ace Roto-Mold runs just under $3,000? We recommend using an elliptical or horizontal leg tank to hold your product on the trailer. Make sure you measure the length and width of your trailer so the tank fits properly and secure it to the trailer with brackets or straps. Contact Spray Smarter to learn about pricing for tanks.

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Hose/Tubing

Spray Smarter offers numerous options when it comes to hoses and tubing, but recommend EPDM or Bumble Bee suction hose to hold up to the pressure cause from the pump. When determining the length and type of hose you need, consider your ideal refueling setup to make sure you allow enough hose length and keep in mind what size fittings you have on your tanks. While wider hose tubing allows quicker product refills and shorter hose length can cut costs, restricting hose length and failing to observe fitting sizes can be dangerous and costly in the long run.

Sight Gauge/Flow Meter

Just like your sprayer, a sight gauge goes a long way. Be sure to install a sight gauge and flow meter on your nurse trailer so you don't mix too much or too little product with water. These instruments cost $400 on average. In addition, consider installing an in-line flow meter to measure how much product you are on-loading to the sprayer. Spray Smarter offers both TeeJet/MidTech and Banjo products for this purpose.

Transfer Pump/Inductor

If your sprayer does not include an inductor, you will need to install one prior to adding the transfer pump. Properly connect the tank to the transfer pump by fastening the hose to each opening. A transfer pump/engine combination can cost as little as $200 or well over $2,000 depending on your needs. Connect the engine giving power to the pump. Fill the tank on your sprayer with a properly fitted nozzle at the end of your hose. Make sure the nozzle locks in place to avoid spilling. Spray Smarter offers transfer pumps from Banjo, Hypro and Shurflo.

Safety

While making sure you leave enough space on the trailer for the transfer pump, engine, and inductor, you also need to allow plenty of walking room on the trailer itself for you to work the nurse trailer properly and avoid injury. To ensure safety, install brake lights on the back of the trailer, and consider adding visibility or warning tape. Department of Transportation requirements may apply to your trailer. For example, if your trailer will be pulled by a tractor with a top road speed of less than 40 miles per hour or if it will travel at average speeds of 15 miles per hour or less, you must display a visible slow moving vehicle (SMV) sign. A variety of inexpensive safety signs, gloves, and goggles are available here.

Test to make sure the nurse trailer works properly before towing it into the field. A simple test can save you a substantial amount of fuel and frustration.

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Cost Summary

Price depends a lot on certain factors such as size and brand of the needed equipment. Taking that into consideration, the total cost will fall into this range.

Item	Price (US dollars)
Trailer (if needed)	$10,000 - $40,000
Tank	$500 - $3,000
Hose	$5/foot
Sight Gauge/Flow Meter	$500
Transfer Pump/Inductor	$200 - $2,000
Safety Equipment	$15
TOTAL	$11,315 - $46,615

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