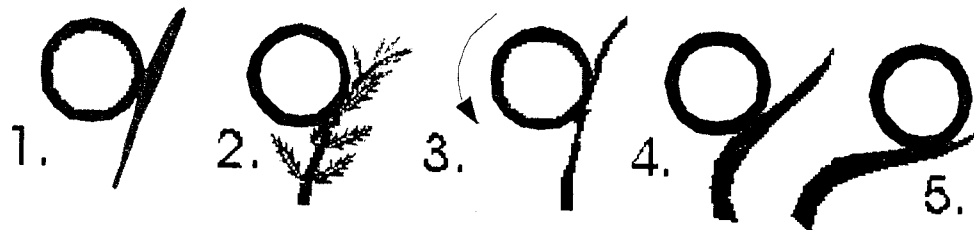


Principles of GrassWorks Weed Wiper

1. GrassWorks Weed Wiper uses a unique carpeted drum, which rotates in the opposite direction of travel. This movement ensures that the roller has a constant supply of herbicide (see page 9), which is brushed on to your targeted weeds. 2. As the roller rotates, it applies the herbicide to the stem and the underside of the leaf, this being one of the more receptive areas for the weed to absorb the herbicide. 3. Small weeds exert little pressure on the carpet; therefore they only remove a small amount of herbicide. 4. Large weeds exert more pressure; therefore remove more herbicide. 5. This means you are only applying the herbicide that is required and not wasting it. As the herbicide runs down the stem it encircles the stem and reaches the base of the weed.



Advantages:

- *You have only applied herbicide to the targeted weeds.
- *You have only applied the herbicide that is required to do the job.
- *You have used fewer chemicals than other alternative applicators.
- *You have increased your profits by effectively giving your pasture more moisture and sunlight to grow.

As with any system of herbicide application, the best results are achieved by planning. Target your weed and select your chemical before beginning.

Herbicide: Water hardness affects chemicals differently. Test small sample areas that you can monitor easily before mixing large amounts of chemical. Consult your local farm supply merchant or Extension agent for advice on herbicides for your area. Generally, herbicides that can be sprayed can be wiped, but usually as a weaker mix. Some herbicides might not be labeled for this type of application. GrassWorks Weed Wiper, LLC or Agents or Dealer will not be responsible for misuse of these such chemicals.

Operation of GrassWorks Weed Wiper

Pasture preparation: Best results are achieved if at least ½ of your targeted weed is taller than your pasture grasses. This allows an efficient area to be exposed to your GrassWorks Weed Wiper without contacting your pasture forages. Better yet, let livestock graze the pasture to short, but adequate, residual forage height, and then immediately wipe weeds.

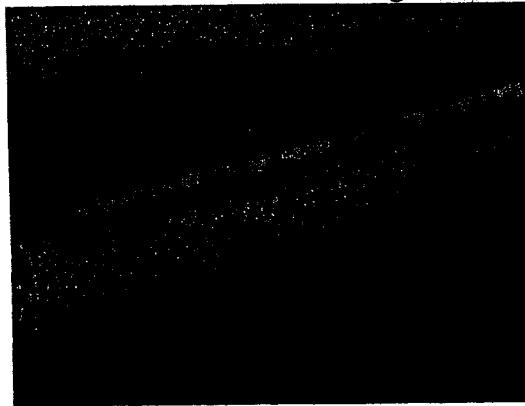
- 1- Adjust the height by lifting up the side arm and moving the adjusting nut down the jack. Depending on what vehicle you are using to tow the unit, you can achieve working heights 0-26 inches.
- 2- Fill your tank with the required herbicide mixture (**See page 11 for first time use**).
- 3- Apply herbicide to your roller by pressing the switch (it is a momentary switch and must be pressed to activated pump). Move slowly forward until roller is saturated but not dripping (see page 11). Stop applying herbicide.
- 4- Travel at a speed of 3 to 10 mph, which is safe and does not create too much bounce. This can shake herbicide onto your pasture. Excessive speed can damage your weeds and a damaged weed will not absorb the herbicide as well.
- 5- As the herbicide on your roller is wiped off, add more by pressing the switch. Use and experience will train you to apply the anticipated amount of chemical before reaching an area of heavy weeds without over-saturating.
- 6- Make sure your roller stays as free from dust and dirt as possible, as this will neutralize some herbicides, such as Roundup™.
- 7- When you have finished, come to a stop in a gate or roadway to avoid drips from the roller damaging pasture. Attempt to remove most of the herbicide before stopping.

Though we have mentioned pasture here, the same can apply for many crops as the weeds grow faster (taller) than the crop.

First Time Use

All Operators should read Owners Manual before assembling, hooking up and/or operating the unit.

- 1- Follow steps 1 and 2 from page 9
- 2- Instead of using herbicide, use a mix of 8 oz dishwashing liquid to 3 gallons water in the tank. The quantity of dishwashing liquid depends on your water type.
- 3- Start by pressing the switch and moving forward slowly so you can saturate the carpet. Determine a dripping stage with no herbicide in the tank; this is how an over-saturated carpet appears.
- 4- A saturated carpet will show a foam line along the seal at the front of the carpet.



- 5- After you have gone through an area of weeds, stop and view to see how the moisture has encircled the stem of the plant and on the underside of the leaf.
- 6- Also experiment with running the carpet is too dry as well as too wet. Weed kill will not be as effective if too dry.
- 7- Notes
 - a. The amount of froth depends on:
 - The amount of detergent in the tank
 - The hardness of water you are using
 - The amount of rubbing on the seal from the weeds
 - The amount of herbicide being removed: the less removed, the greater the froth.
 - b. Speed
 - Do not go so fast that you break parts of the weed as a damaged plant will protect itself and will not absorb the herbicide as well.
 - Do not drive so quickly that the GrassWorks Weed Wiper bounces and shakes the herbicide from the carpet.

c. Moisture

- Moisture can be absorbed from plants to the carpet if there is abundant dew. This can lead to overly diluted chemical and less desirable results.
- Practice makes perfect: too much and you can damage your pasture/crop. Too little and the kill will not be as successful.

d. Herbicide mixes

- Consult with experts if you are in question as to what herbicide to use for your targeted weed. The suggestions on Page 12 are only suggestions from farmers that have had success with them.
- Add detergent to your mix so you can have a visual clue of roller wetness. The detergent used will vary from area to area, depending on water hardness and type of chemical used.
- Detergent does not replace a penetrant surfactant
- **Ratios: take the time to do a test on your farm. A slow kill is far more effective than a fast kill as a slow kill reaches the root system.**
- Herbicides which work using spray booms to kill the target weeds should work equally well with GrassWorks Weed Wiper.

The operator has the responsibility to determine the herbicide type, mix ratio, speed of application, and moisture levels. Please take this responsibility of protecting our environment seriously.

20:1 Dilution Rates:

15 gallon tank:

20:1 mix = approximately 3 quarts herbicide and top tank off with water. Add detergent to increase frothing if needed.

25 gallon tank:

20:1 mix = approximately 5 quarts herbicide and top tank off with water. Add detergent to increase frothing if needed.

IMPORTANT NOTICE: Users please note that mixtures of RoundUp with Escort & other herbicides will kill almost all plants touched by the roller. Take great care cleaning roller after such mixes!

The manufacturers and dealers of GrassWorks Weed Wiper accept no responsibility what-so-ever, regardless of circumstances for any result of using GrassWorks Weed Wiper and any of the above information:

Maintenance –

1. Before use
 - a. Grease roller bearings
 - b. Check sediment filter
 - c. Check that nuts and bolts are tight
 - d. Check that wheel bearings are in good condition with wheels spinning freely

2. After use
 - a. Flush tank out with clean water by removing filter bowl.
 - b. Flush spray lines out by refitting filter and filter bowl and leave pump running until all traces of herbicide have been removed. Use warm soapy water to flush oil-based herbicides.
 - c. Hose herbicide from carpet
 - d. Hose entire unit.
 - e. Store with roller off the ground and cover to protect from the elements.

Trouble Shooting

1. Turn off machine before dismounting tractor or towing vehicle.
2. Pump does not work:
 - Poor or loose connections at battery – clean and refit connections.
 - Blown fuse – replace with new 10amp fuse
 - Plug not plugged into tank – plug in and check connections are clean
 - Faulty switch--replace switch
 - Faulty wiring—harness repair or replace wiring
 - Faulty pump-- repair or replace pump
3. Carpet has dry spots:
 - Blocked jets: remove shield. Check and replace jets as required, making sure they face downward
4. Very wet carpet:
 - Pump stuck on – replace switch
5. Carpet drips excessively:
 - Check for torn or damaged carpet-replace carpet (page 14)
6. Turn off machine before dismounting tractor or towing vehicle.