

Farm Mechanization FACTSHEET



BRITISH
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Ministry of Agriculture and Food

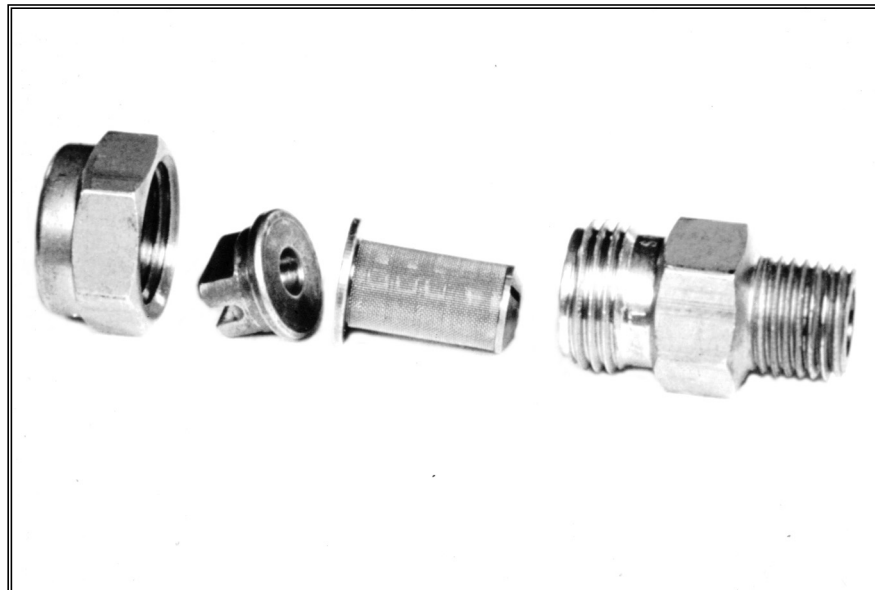
Order No. 234.005-1

Agdex: 744

May 1986

SUGGESTIONS FOR FIELD SPRAYER OPERATION AND MAINTENANCE

A recent field sprayer-testing project revealed the need for better sprayer maintenance. Following the suggestions in this factsheet will help ensure accurate and economical chemical application.



Nozzles tip and screen - two of the many sprayer components work together to ensure accurate chemical applications.

NOZZLES

1. Never mix different sizes and types of NOZZLE TIPS, DISCS and CORES. Each delivers a different amount of liquid, and accurate chemical application will be impossible.
2. When using hollow cone nozzles, use only DISC-CORE COMBINATIONS that are listed in the Manufacturer's CATALOGUE. Improper combinations of discs and cores can cause rapid core wear and/or distorted spray patterns.
3. Even stainless steel nozzles may corrode if left in the sprayer over the winter. NOZZLES and NOZZLE SCREENS SHOULD BE REMOVED and cleaned each fall and stored in a can of light oil or diesel fuel for the winter.
4. For maximum nozzle life and chemical application accuracy, consider using CERAMIC, METAL OXIDE or TUNGSTEN CARBIDE NOZZLES. These are more expensive than brass or stainless steel nozzles, but if properly maintained, will probably outlast the rest of the sprayers.

5. Spraying Systems Co. sells two nozzles, which produce a hollow cone spray pattern: the disc-core nozzle and the “ConeJet” nozzle. THE “ConeJet” NOZZLE IS FOR USE WITH CLEAR LIQUID CHEMICALS ONLY, AT PRESSURES BELOW 150 psi. For applying abrasive chemicals at higher pressures, use the disc-core nozzles.
6. The OUTPUT of each INDIVIDUAL spray nozzle should be CHECKED REGULARLY. Over half of the nozzles we tested required replacement.
2. Maintain the SUCTION SCREEN between the tank and the pump in good condition. If it is bent or torn, or does not fit properly, it will not screen debris out of the water. When replacing a screen, be sure that the new one fits perfectly. Otherwise, it will not filter the water.
3. Many sprayer tanks have an external CLEAR PLASTIC HOSE that lets the operator see how full the tank is. This hose should be replaced annually, so that the tank level is always easy to read.

PRESSURE GAUGES

1. Over half of the sprayers tested had faulty PRESSURE GAUGES. Keep a spare gauge on hand and interchange them at the start and middle of each spraying season.
2. Use a LOW PRESSURE GAUGE (0 – 100 psi) for herbicide spraying and a HIGH PRESSURE GAUGE (0 – 400 psi or 0 – 600 psi) for insecticide and fungicide spraying.
3. Use only top quality OIL-FILLED GAUGES designed for use with spraying equipment. The gauge should have a large dial, with numbers that are easy to read.
4. Keep your SPRAYING PRESSURE within the range given in the nozzle MANUFACTURER’S CATALOGUE. Exceeding these limits will result in an excessive pesticide drift and rapid nozzle wear.
4. Some of the larger sprayers tested had a pressure drop of more than 20 psi between the pump and the side spray booms. This was caused by HOSES and BOOM SHUT-OFF VALVES that were TOO SMALL. You can easily test for a pressure drop on your own sprayer by temporarily replacing the nozzle at the end of the spray boom with your spare pressure gauge. There should be no more than 5 psi difference between the two gauges, at your normal spraying pressure.
5. WASH YOUR SPRAYER off carefully before winter storage to minimize rusting of the frame.
6. Install a tap in the side of a 20 litre pail, fill the pail with FRESH WATER and mount it on your sprayer. When you want to rinse off a plugged nozzle or wash you hands, you will have clean water available.
7. The PTO SAFETY SHIELD must completely cover the PTO shaft. It should also spin freely about the shaft. If your clothing is accidentally caught on a rotating PTO shaft, or on a faulty shield that won’t stop rotating, **YOU WILL LIKELY BE KILLED.**

OTHER COMPONENTS

1. Install a SCREEN BASKET in the tank’s large top opening. This screen will keep coarse material out of the system and also helps ensure that wettable powders are thoroughly mixed before they are added to the tank.
8. Your TRACTOR TACHOMETER / SPEEDOMETER must be in good working condition. Accurate chemical application is only possible if the tractor’s ground speed is known and consistent.

FOR FURTHER INFORMATION CONTACT

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