

Renovation Equipment Maintenance

Several different kinds of equipment are used during renovation of sports fields. Properly maintained equipment will give you better results agronomically and cause you fewer downtime headaches.

In general, renovation includes aerators, spreaders, slit seeders and sprayers. Here's a few of the maintenance basics for each.

Aerators

There are five basic areas to proper aerator maintenance, beginning with the cleaning. Aerators must be cleaned thoroughly after each use. Make sure that tines are completely clean. With closed-spoon tines, make sure all soil is removed from each tine. Remember, once the soil has hardened, especially in clay-based areas, it becomes difficult to clean from the tine.

The next step is to inspect the tines themselves. To ensure proper penetration depth, make sure the tines are not excessively worn. Tine points should be maintained by properly filing or grinding them. Bent or broken tines should be replaced.

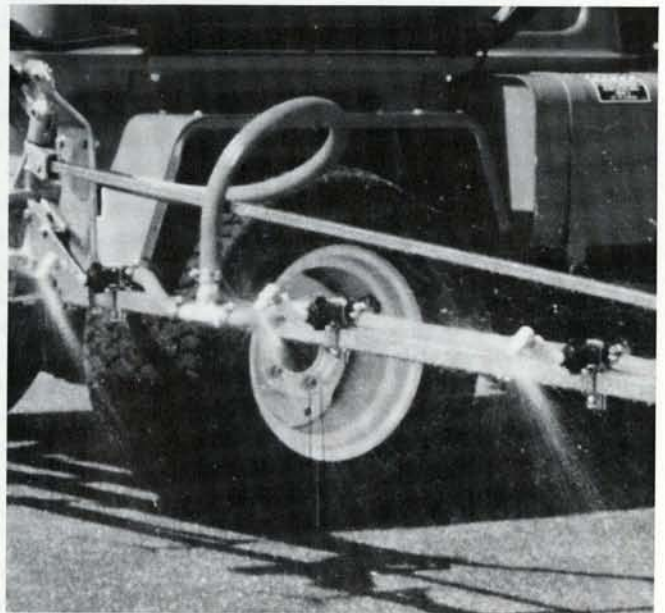
Aerator lubrication is imperative. Check your operator's manual to be certain you are lubricating each point of the machine as specified. Keep in mind that lubrication is cheap insurance for machine performance and longevity. When lubricating all grease points, check all bear-

In-line strainers and nozzles of boom sprayers should be cleaned before each use.

ings and bushings for wear. Try to move the shafts up, down and sideways — excessive motion in these areas could determine premature bearing or bushing wear. Replacing worn bearings or bushings at this point will save downtime in the field.

Maintenance adjustments, such as on chains and belts, are also critical. Check your operator's manual for proper tension specifications. If your machine has a chain drive, it must be properly lubricated. If the chain must be replaced, remember to check your operator's manual — your machine may require timing of the chain drive system.

Drive mechanisms are fairly simple. There are three basic types: ground-driven, gasoline engine-driven and PTO-driven. Again, refer to your operator's manual for gasoline engine maintenance schedules, but be sure to regularly



check the air filter and oil levels. If your aerator is equipped with a PTO shaft, check that the universal joints on the shaft are tight and properly lubricated. Also, be sure that safety shields are in place.

Spreaders

Cleaning is essential on pendulum spreaders. The environments in which they're used are often dusty and can cause problems if left to accumulate. Both the spreader hopper and transmission should be thoroughly cleaned. In addition, the transmission has several lubrication points. These points must be

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lubricated routinely. This will help remove any fine dust particles that may have worked their way into bearing areas — the lubrication will flush out debris.

Check that the shut-off plate mechanism is working properly and the calibration adjuster is moving freely. Lubrication in these areas will help maintain ease of movement.

If your spreader is equipped with an agitator extension, make certain it is properly adjusted so the top of the agitator doesn't wear into the side of the hopper. You want approximately 1 inch of clearance between the agitator extension and the hopper sides.

The PTO shaft should also be checked. Check the universal joints for play and make sure they're properly lubricated. If your piece of equipment has a slip clutch, make sure the bolts are tightened to their proper torque specifications. Check that your safety shields are intact. It is a wise idea on a pendulum spreader to inspect the spout daily when the spreader is being used. Check the attaching hardware and tighten as needed.

If your spreader is a three-point-hitch type, PTO rpm speed should be 540 rotations per minute. Excessive speed will cause damage to the transmission, while too slow a speed will cause improper distribution of the product.

Slit Seeders

The environment in which a slit seeder operates makes proper cleaning of the machine essential. Neglecting cleaning will cause premature mechanical parts failure. It can also lead to uneven seed distribution, caused primarily by clogged or plugged seed distribution ports. After thorough cleaning these units, inspect the seed gate to make it opens properly and is adjusted to move freely.

Check slicing blades to ensure good working condition. Replace worn or broken blades and carefully straighten any bent blades. Double-check all blades for security. While you're inspecting the blades, check the safety shields to make sure they're intact and functioning properly. Do not operate the machine if the safety shields are not intact.

Check for proper tension on chains and belts. Make sure that chains are properly lubricated. Lubricate all grease points as specified in your operator's manual. While lubricating grease points,



Working conditions for slit seeders make regular cleaning and adjustment essential.

check bearings and bushings for wear and replace as needed. If your piece of equipment has a gear box, make sure it is filled to the proper level.

There are two types of slit seeder drives — PTO and gasoline engine-driven. As mentioned previously, it is imperative to check the U-joints and the slip clutch on the PTO shaft. Refer to the engine manual for proper service intervals. Because the operating is often dusty and dirty, the air filter should be checked and cleaned frequently.

Maintenance of rotary and drop spreaders is very simple — they should be cleaned thoroughly after each use. On a rotary spreader, it is imperative to clean the impeller. Any caked-on buildup should be removed. If your spreader is equipped with grease fittings, these points should be lubricated frequently to expel dust particles. Again, check these areas for wear. Replace bearings or bushings that appear overly worn. Check and adjust shut-off plates to ensure proper operation. A sticking shut-off plate could alter product distribution rates, which adversely affect seeding results.

Sprayers

Before using your sprayer, make sure it is clean. Check all filters and the inside of the tank to ensure it is free of debris. After sprayer use, proper cleaning with a neutralizing product is desirable. Be sure to flush out any lines, hoses or booms.

Sprayers equipped with a boom have several areas that need to be checked, depending on the particular setup. Start with the check valves to make sure that

they are clean and move freely. Next, check the in-line strainers in the nozzle bodies to make sure they are not clogged. Replace any clogged or non-cleanable strainer assemblies.

Next, check the spray tips. First, remove and clean all tips. Use only a nylon brush, such as a toothbrush. Never use anything else, even a toothpick, to clean nozzle tips — this can result in damaging the tip and cause alterations to the distribution pattern of the tip. After all these areas have been cleaned, reinstall the check valves, strainers and tips. Then check for proper flow and distribution pattern of each nozzle assembly. Replace worn tips as needed.

In sprayer plumbing systems, check all hose and fittings. Hoses should be checked for cracks and signs of wear and any questionable hoses should be replaced. Inspect and clean strainer assemblies. When checking strainer assemblies, don't forget to reinstall the strainer gasket. This is one of the most commonly overlooked areas that causes sprayers to malfunction.

Sprayer pump systems include a pump, a regulator and an engine, if so equipped. Refer to your operator's manual for properly scheduled maintenance intervals for the engine and pump. Oil levels on both should be checked daily.

The goal of athletic field renovation is to reinvigorate or refresh the turf. Proper maintenance of the tools involved plays an integral role in the overall success of the project. □

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