



Roland Taylor dons the latest safety clothing, calibrates his typewriter and dives into the world of the sprayer ...

Spray away



Old A N Other dragged his sprayer from the back of the machinery-shed ready for its annual outing only to discover leaking hoses. So, a little more liquid seeped out on to the grass, no harm would be done.

He took last year's can of chemical

down from the shelf. The label had long gone and with it the dilution rates.

"Never mind, the dilution rate is approximately this," he muttered as he splashed the liquid into the tank.

"Suppose I should have calibrated the sprayer but I've forgotten how to do it," he moaned.

"It was only done a couple of years ago, so it should still be all right."

"What to wear? I've doing this job for as long as I can remember and never worn any special clothing, so why start now?"

This scenario is over the top, although it illustrates the possible area that in the past could have been neglected. The picture today is entirely different, as is the equipment. Strict legislation has forced

manufacturers to reduce the amount of chemicals used and spraying has to be accurate and only carried out by trained operators. Sprays have to be stored in approved containers and under security. The modern sprayer and all its related accessories such as nozzles conform to the highest of standards to ensure accurate application of the chemicals.

Choosing a sprayer, like all equipment, is best done after an analysis has been made of what is required, plus a comparative demonstration of similar makes has been carried out. Specialist advice is available and, if there are any doubts, this should be sought.

The DEFRA (MAFF) have introduced new codes of practice, which state the following. "All pesticides must be contained within the area of application." Not an easy task in this country, where wind can often be a major problem.

There are some new introductions for 2002, which could be the answer to readers' requirements.





...can also be used for
 ...FUNCTION COLLECTION
 ...floating head system,
 ...courses and sports turf

Sisis

The company worked closely with Cranfield University in developing their Ecospray system, which is designed to be used safely close to flowerbeds, water-courses and other sensitive areas.

According to Sisis a patented perforated shroud is used for optimum airflow and to maintain the spray pattern, plus drift is virtually eliminated. Bubble jet nozzles are used to help give a uniform droplet pattern across the full spraying width.

On undulating terrain the height of the spray boom from the ground can alter dramatically. To overcome this the Sisis Ecospray units are fully floating to follow the contours closely. The company says that accurate chemical placement reduces wastage and the amount of chemical required, with the knock-on effect of limiting costs.

A number of models are available with a choice of five or three units, which can be used with a wide range of vehicles, tractors and trucksters. For more confined areas, or where access is restricted, there is a pedestrian powered model.

Charterhouse

Managing Director, David Jenkins says. "Many enclosed boom products simply do not work because they have no shroud or aerofoil over the top of the sprayer hood. This maximises the efficiency of the unit and eliminates a major problem - eddies of turbulence behind the boom enclosure."

The problem is similar to that experienced by many estate car owners, who find their tailgates get surprisingly dirty or dusty owing to the vortex they leave in their wake. A sprayer enclosure without an aerofoil pushes air upward. This creates an eddy that throws the spray droplets up into the air causing drift - a situation that they are meant to overcome.

Charterhouse says that the Rogers Drift Containment Spray Systems have aerofoils on the enclosed booms that are the result of extensive wind tunnel trials. These redirect the air downward, and the spray is targeted towards the ground.

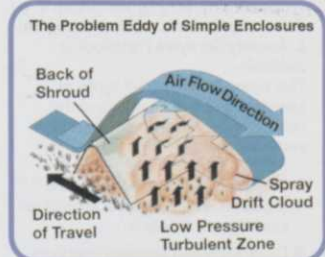
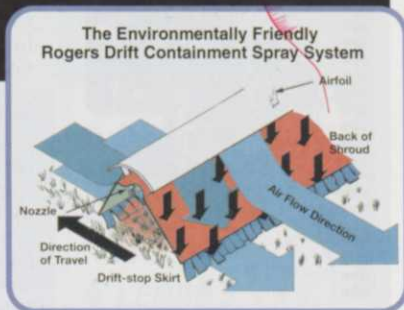
Spraying can start early in the morning, but because of gusty breezes later on, it has to be stopped. It is claimed that with this system the operation can continue until it is finished.

The Rogers Sprayers have a number of other features. The units follow the ground contours closely and visible spray monitors show whether individual nozzles are performing correctly.

There is a choice of manual, electrically or hydraulically operated booms available in 4.5 metre, 5.5 metre and 6 metre lengths. Each section has a break-back to avoid damage should they come into contact with an obstacle.

For spraying greens two models are available. If you already have a sprayer there is the Rogers Greenfoil which can be linked to it and is supplied from its tank.

The alternative is the Turf Electric, which has a 12voltage pump and control valve spray monitor and pressure gauge.



David Jenkins stresses the importance of having the right equipment for accurate and safe spraying. He says that mistakes can lead to embarrassing and costly turf damage plus the possibility of contaminating adjacent property, water courses and the operator.

Spray away



Toro

The new Multi-Pro 1250 is a dedicated sprayer based on the Toro workman utility vehicle. It has been designed to handle all the spraying applications required on a course regardless of its size. Powered by a 20hp Kohler petrol engine, the sprayer has a 605 litre tank and the unique spray control system is gear driven off the wheels, so application rates are instantly in proportion to changes in the vehicle's speed. With its small turning circle the Multi-Pro 1250 can work in confined spaces such as golf greens. There is a 4-wheel hydraulic braking system for stable, safe braking, even when fully loaded.

Toro say they have overcome the problem of spray drift in windy conditions by making available an optional enclosed boom, on which shielded nozzles are fitted to ensure the spray reaches its target area. This easy-to-use sprayer has another important feature. Because the spray tank is mounted in a low position, the operator has a 360 degree unobstructed view. A range of dedicated spraying attachments is also available.

Allman

For spring 2002, Allman has launched its six metre Drift Master shrouded boom. The company has introduced this lightweight boom shroud as an add-on kit for all-electric and hydraulic folding 6 metre booms. It can also be fitted to existing booms. Allman says that with this system greenkeepers will be able to maximise windows of opportunity for spraying.

The company's Spray King Turf Truck demountable will fit most turf vehicles on the market.

It has a 600 litre fibreglass tank with

60 litre per minute Comet 60/20 diaphragm pump. According to Allman, the unit can be easily and quickly de-mounted. Tractor powered models are also available

Micron

This company designs and manufactures portable and vehicle mounted controlled droplet application (CDA) equipment including the Enviromist range. Micron say that the CDA system virtually eliminates the production of small driftable droplets. This is achieved by using centrifugal forces which are generated by speed selected rotary atomisation to break up the liquid into uniform droplets of non-driftable dimensions. The company says that the system achieves weed control at significantly reduced volumes (as low as 12 litres/Ha) compared to high volume hydraulic sprayers. The addition of a shroud also minimises loss of spray droplets into the atmosphere.

The sprayers have a 60 litre tank and are light enough to be mounted on an ATV as well as a tractor.

Hardi

According to the company, the Defender tractor and mini versions are the first shrouded boom sprayers to be awarded Local Environmental Risk Assessment for Pesticides (LERAP) 3 star approval, for drift reduction at pressures of between 1 and 10 bar.

When spraying LERAP approved chemicals with a Defender, the buffer zone near watercourses can be reduced from 6 metres to 1 metre (up to a 97% drift reduction). It is also claimed that potential savings in chemical costs can be as high as 30%. The Defender booms can be fitted to all sprayers. Manual electronic or hydraulic folding versions are available. The self-contained Mini

Defender has a 30 litre tank and a 12 volt rechargeable battery-operated 8 litres per minute pump. Nozzle size and pressure govern the application rate and any excess liquid is returned to the tank.

Hardi also offer a comprehensive range of amenity sprayers.

Gambetti UK

Two tractor or truckster mounted sprayers are available with a choice of 4.5 metre or 5.5 metre working widths.

A robust backbone is fitted to the outside of the boom canopy to minimise contamination. The company says that one of the major features of their units is a hydraulic tilt, which is fitted as standard. This gives access under the canopy for testing and cleaning. It is said to also make changing nozzles and power washing out ready for storage easy for the operator. There is a built-in suspension system to ensure smooth operation and the booms have PVC skirts their entire length for contact with the ground. Anti-shock break-back protects the side covers.

All the sprayers come with twin stainless steel tank rinsing nozzles, which are open spinning vanes to avoid choking up. An optional hydraulic system for folding each wing is available.

The company also makes a 2 metre wide walk-behind boom version which will link to most sprayers and a drawbar is fitted for use with an ATV.

Finally ...

The application of chemicals is continually under the spotlight and no doubt we will see continuing restrictions and regulations regarding their use. It is important to ensure your sprayers conform and are operated within the present and any future legislation. The days of Old A N Other are long gone.

HAND-HELD & AMENITY SPRAYERS HANDBOOK

A complete guide to smaller-scale spraying



A booklet produced by the British Crop Protection Council, entitled Hand Held & Amenity Sprayers Handbook is available.

This covers the different types of sprayers, looks at nozzles and the control of droplets. There are other sections dealing with:

- Preparing for spraying regarding regulations and controls, protective clothing and safety
- Calibration and spraying practices
- After spraying and disposal
- Fault finding and equipment choice

For details of how to obtain a copy of this booklet contact BCPC Publications on 0118 934 2727 or check out their website www.bcpc.org where there is an online bookshop.