

Top tips for better application technique

WATER VOLUMES

- Adhere to label recommendations to ensure root kill & long term control
- **IF air inclusion nozzles** are being used then we will support applications made with water volumes down to 200 L/ha as our trials show good control can be maintained in these instances. See our video clip: <http://uk.dowagro.com/spraying-grassland-low-water-volumes/>
- The **minimum** water volumes that can be applied are set by the maximum concentration allowed on the product label. Please note this may reduce efficacy.
- For example, if the product label states a maximum product use rate of 1.0 L/ha in a minimum water volume of 200 L/ha, it is also perfectly acceptable to apply 0.5 L/ha of that product in 100 L/ha – in both cases the concentration of the product in water is 0.5%.

Product	Dose rate	Minimum water volume on label (L/ha)	Maximum dose permitted in water at 100 L/ha	Comments on efficacy at 100 L/ha
DoxstarPro® or Pas®	2.0 L	300	1.3 L	Done at own risk. Efficacy not supported.
Envy®	2.0 L	200	1.0 L	
Forefront T®	2.0 L	200	1.0 L	
Leystar®	2.0 L	150	1.3 L	
Thistlex® or Tor®	1.0 L	200	1.0 L	

PRESSURE

- Fan jets are widely used when spraying grassland.
- Use a pressure of 2 bar rather than 3 bar, as this significantly reduces drift.
- There will be bigger droplets but this will not affect efficacy.

BOOM HEIGHT

- Docks and thistles can be taller than grass and stick out above the crop.
- Assuming standard 110 degree fans and 0.5 m spacing, the boom should be carried 30 cm above the weeds.
- This ensures the top of the weed is hit, while achieving good coverage of the lower leaves.

LEAF WETNESS

- Provided water is not running off the leaf, applying spray does not trigger run-off, and chemical will be absorbed as the leaf dries.
- All the above herbicide products are rainfast in 2 hours, with the exception of Forefront T which is rainfast in 1 hour.

BOUT MARKING

- Bout marking is important for good application practice, but is often overlooked on smaller farms that cannot stretch to highly accurate, but expensive, RTK systems.
- A 10% overlap wastes chemical and leads to double dosing.
- One option is to knock in coloured fence-posts around the headlands at the correct bout widths.
- Otherwise, light bars are relatively cheap and accurate to within 30 cm when used by a good operator.



Quad Bike Sprayer Calibration

STEP 1- Fill sprayer with 10 L water

STEP 2- Spray out at proposed forward speed

STEP 3- Measure distance travelled

STEP 4- Use table below to calculate water volume applied

Distance Travelled Spraying 10 L Water						
Boom Width						
Water Volume	1 m (39")	1.5 m (59")	2 m (6'7")	3 m (9'10")	4 m (13'1")	5 m (16'5")
200 L/ha	500 m	333 m	250 m	167 m	125 m	100 m
300 L/ha	333 m	222 m	167 m	111 m	83 m	67 m
400 L/ha	250 m	167 m	125 m	83 m	62 m	50 m

STEP 5- Adjust forward speed to achieve required water volume and retest

STEP 6- Use the tables below to calculate the quantity of the relevant product to add to the tank *N.B. For tank capacities not shown, calculate from the 10 L figures*

DoXstarPRO 2.0 L/ha	200 L/ha* (use air inclusion nozzles)		300 L/ha		400 L/ha		Target Water Volume
	Sprayer Capacity	Amount per tank	Area treated (m ²)	Amount per tank	Area treated (m ²)	Amount per tank	
10 Litres	100 ml	500	66 ml	334	50 ml	250	200-400 L/ha
30 Litres	300 ml	1500	200 ml	1000	150 ml	750	
40 Litres	400 ml	2000	266 ml	1334	200 ml	1000	
50 Litres	500 ml	2500	333 ml	1667	250 ml	1250	
60 Litres	600 ml	3000	400 ml	2000	300 ml	1500	

Envy 2.0 L/ha	200 L/ha		300 L/ha		400 L/ha		Target Water Volume
	Sprayer Capacity	Amount per tank	Area treated (m ²)	Amount per tank	Area treated (m ²)	Amount per tank	
10 Litres	100 ml	500	66 ml	334	50 ml	250	200-400 L/ha
30 Litres	300 ml	1500	200 ml	1000	150 ml	750	
40 Litres	400 ml	2000	266 ml	1334	200 ml	1000	
50 Litres	500 ml	2500	333 ml	1667	250 ml	1250	
60 Litres	600 ml	3000	400 ml	2000	300 ml	1500	

Forefront 2.0 L/ha	200 L/ha		300 L/ha		Target Water Volume
	Sprayer Capacity	Amount per tank	Area treated (m ²)	Amount per tank	
10 Litres	100 ml	500	66 ml	334	200-300 L/ha
30 Litres	300 ml	1500	200 ml	1000	
40 Litres	400 ml	2000	266 ml	1334	
50 Litres	500 ml	2500	333 ml	1667	
60 Litres	600 ml	3000	400 ml	2000	

PAS·TOR 1.0 L/ha + 1.0 L/ha	200 L/ha		300 L/ha		400 L/ha		Target Water Volume
	Sprayer Capacity	Amount per tank (Pas + Tor)	Area treated (m ²)	Amount per tank (Pas + Tor)	Area treated (m ²)	Amount per tank (Pas + Tor)	
10 Litres	50 ml + 50 ml	500	33 ml + 33 ml	334	25 ml + 25 ml	250	200-400 L/ha
30 Litres	150 ml + 150 ml	1500	100 ml + 100 ml	1000	75 ml + 75 ml	750	
40 Litres	200 ml + 200 ml	2000	133 ml + 133 ml	1334	100 ml + 100 ml	1000	
50 Litres	250 ml + 250 ml	2500	166 ml + 166 ml	1667	125 ml + 125 ml	1250	
60 Litres	300 ml + 300 ml	3000	200 ml + 200 ml	2000	150 ml + 150 ml	1500	

THSTLEX 1.0 L/ha	200 L/ha		300 L/ha		400 L/ha		Target Water Volume
	Sprayer Capacity	Amount per tank	Area treated (m ²)	Amount per tank	Area treated (m ²)	Amount per tank	
10 Litres	50 ml	500	33 ml	334	25 ml	250	200-400 L/ha
30 Litres	150 ml	1500	100 ml	1000	75 ml	750	
40 Litres	200 ml	2000	133 ml	1334	100 ml	1000	
50 Litres	250 ml	2500	166 ml	1667	125 ml	1250	
60 Litres	300 ml	3000	200 ml	2000	150 ml	1500	