

Grower Summary

SF 154

Blackcurrants: Screening
herbicides for safe use in
recently planted cuttings

Final 2014

Disclaimer

While the Agriculture and Horticulture Development Board seeks to ensure that the information contained within this document is accurate at the time of printing, no warranty is given in respect thereof and, to the maximum extent permitted by law the Agriculture and Horticulture Development Board accepts no liability for loss, damage or injury howsoever caused (including that caused by negligence) or suffered directly or indirectly in relation to information and opinions contained in or omitted from this document.

©Agriculture and Horticulture Development Board 2015. No part of this publication may be reproduced in any material form (including by photocopy or storage in any medium by electronic mean) or any copy or adaptation stored, published or distributed (by physical, electronic or other means) without prior permission in writing of the Agriculture and Horticulture Development Board, other than by reproduction in an unmodified form for the sole purpose of use as an information resource when the Agriculture and Horticulture Development Board or AHDB Horticulture is clearly acknowledged as the source, or in accordance with the provisions of the Copyright, Designs and Patents Act 1988. All rights reserved.

The results and conclusions in this report may be based on an investigation conducted over one year. Therefore, care must be taken with the interpretation of the results.

Use of pesticides

Only officially approved pesticides may be used in the UK. Approvals are normally granted only in relation to individual products and for specified uses. It is an offence to use non-approved products or to use approved products in a manner that does not comply with the statutory conditions of use, except where the crop or situation is the subject of an off-label extension of use.

Before using all pesticides check the approval status and conditions of use.

Read the label before use: use pesticides safely.

Further information

If you would like a copy of this report, please email the AHDB Horticulture office (hort.info@ahdb.org.uk), quoting your AHDB Horticulture number, alternatively contact AHDB Horticulture at the address below.

AHDB Horticulture,
AHDB
Stoneleigh Park
Kenilworth
Warwickshire
CV8 2TL

Tel – 0247 669 2051

AHDB Horticulture is a Division of the Agriculture and Horticulture Development Board.

Project Number: Sf 154

Project Title: Blackcurrants: Screening herbicides for safe use in recently planted cuttings

Project Leader: Mike Hutchinson, H.L. Hutchinson Ltd

Contractor: H.L. Hutchinson Ltd

Industry Representative: Rob Saunders, LRS, Longwalk Road, Stockley Park, Uxbridge, UB11 1BA

Report: Final Report 2014

Publication Date: 07 July 2015

Previous report/(s): None

Start Date: 1 February 2014

End Date: 17 November 2014

Project Cost: £5,300

GROWER SUMMARY

Headline

- A range of herbicides have been found to be suitable as potential replacements for Ronstar, to control annual weeds in newly planted blackcurrant cuttings.

Background and expected deliverables

Blackcurrant cuttings present a particular challenge with respect to weed control. In their first couple of years the cuttings themselves are not very competitive and provide little shading, meaning that growers must pay particular attention to weed control so that establishment and subsequent cropping are not compromised. The residual herbicide Ronstar (oxadiazon) has been widely and successfully used for many years, but successor materials are required now that Ronstar is no longer available. This season long project was instigated to assess the efficacy of alternative herbicides, to include products currently approved for use on blackcurrant and those which may soon become approved or may have potential for approval in future.

Summary of the project and main conclusions

The approach used was to plant a trial area, and immediately after planting, to treat individual test plots with all of the candidate blackcurrant herbicides. The trial was planted at Sandringham Estate, Kings Lynn, Norfolk; Grid reference TF 715264. The soil was a sandy loam on a site that had been previously used for an orchard, then grass. The cuttings were all hand planted on 13 February 2014 following winter ploughing, pressing and secondary cultivation. Three varieties of blackcurrant (Ben Gairn, Ben Vane and Ben Tirran) were planted. Plots were protected from rabbit damage by an electrified fence. The herbicides were applied to the newly planted cuttings. Crop safety and weed control efficacy provided by these herbicides was assessed during the early growing season. The trial site is displayed in the image below.



Treatments

- Trial treatments are shown in Table 1 and the product details listed in Table 2. Of these, MaisTer, Wing-P and Dual Gold currently have no approval for use on blackcurrant cuttings.
- Treatments were applied on 14 February 2014, one day after planting (T1 = early post-planting) to dormant cuttings using a GS air pressurised plot sprayer (Pulvexpur - 3m) with 015 F110 Lo Drift nozzles at 3.2 bar pressure and a forward speed of 1.0 m/s.
- Plant surfaces were dry but the soil surface was moist and soil sub-surface was wet. The soil condition was loose and the soil tilth was fine.
- There were ideal spraying conditions, with the weather at the time of application being overcast with an air temperature of 3°C, soil temperature of 4°C and wind speed of 1 kph from the southwest.
- Cloud cover was 100 % and there was rainfall 3-4 hours after application.

Table 1. Treatments - one day after planting at water volume of 200 l/ha

	Treatment	Rate / ha	Timing
1	Untreated control		
2	Artist	2.5kg	T1
3	Artist	5.0kg	T1
4	Devrinol	7.0l	T1
5	Devrinol	14.0l	T1
6	Kerb	4.25l	T1
7	Kerb	8.5l	T1
8	Shark	0.8l	T1
9	Shark	1.6l	T1
10	Sumimax	0.1l	T1
11	Sumimax	0.2l	T1
12	Nirvana	4.5l	T1
13	Nirvana	9.0l	T1
14	MaisTer	0.075kg	T1
15	MaisTer	0.15kg	T1
16	Wing-P	4.0l	T1
17	Wing-P	8.0l	T1
18	Dual Gold	1.4l	T1
19	Dual Gold	2.8l	T1

Table 2. Product details

Product name	Active(s)	Active formulation	Formulation
Artist	flufenacet + metribuzin	24% + 17.5% w/w	WG
Devrinol	napropamide	450g/l	EC
Dual Gold	metolachlor	960g/l	EC
Kerb	propyzamide	400g/l	EC
MaisTer	foramsulfuron + iodosulfuron + isoxadifen	300g+10g+300g/kg	WG
Nirvana	pendimethalin + imazamox	250g/l+16.7g/l	SC
Shark	carfentrazone-ethyl	60g/l	ME
Sumimax	flumioxazin	300g/l	SC
Wing-P	pendimethalin + dimethenamid	250g/l+212.5g/l	EC

The full results from the trial can be found in the 'Science Section' of the report. The results showed that blackcurrant varieties have a variable, though similar, tolerance to a range of herbicides. Several of the candidate herbicide active ingredients were shown to be safe across the three varieties grown in this trial. Several herbicides caused insignificant ($P=0.05$) reduction in crop vigour – such levels of vigour reduction would not be detected in a commercial crop where a complete field would be treated. Only Nirvana at either 4.5l or 9.0l was clearly unsafe in all three varieties. However, lower rates of Nirvana may be crop-safe, whilst still providing good levels of weed control.

Good levels of black bindweed control were obtained from Kerb, Nirvana and Wing P 75DAT and 109DAT. Good levels of field speedwell control were obtained from Artist, Kerb, Nirvana, Wing P and Dual Gold. Good levels of fat hen control were obtained from Artist, Nirvana and Wing P. Shark is a contact herbicide only and therefore does not provide residual weed control.

Good, long lasting levels of weed control, for a range of commonly occurring weed species were exhibited in the trial. Wing-P provided the best combination of weed control and crop

safety from a single product, although several other herbicides may be useful to extend the range of weeds controlled. It should be noted that Wing-P is not currently approved for use on blackcurrants.

The efficacy data from this trial must be treated with caution as the herbicide treatments were not replicated. The trial has provided basic weed control efficacy data which can be used to design and evaluate future herbicide programmes based on tank mixes of products with complementary weed control spectrums.

Financial benefits

Because this trial has not resulted in the immediate delivery of a new and improved herbicide product to blackcurrant growers, no financial benefits have immediately arisen from this project.

Action points for growers

- No action points have arisen directly from this herbicide trial.