Summary of symptoms observed after the first herbicide treatments

MAY 2026

ZEST SUSTAINABLE ICM

Plant marketability assessment scores made six weeks after the first herbicide treatments (31 March 2026)

№	Variety	Emerger	Goltix Titan	Coded A	Broadway Star	HDC H43	SP16788
1	*Buddleja davidii* 'Royal Red'	3	0	4	4	0	3
2	*Carex testacea*	0	0	0	3	0	0
3	*Ceanothus azureus* 'Blue Mound'	3	0	0	3	0	2
4	*Choisya ternata* 'White Dazzler'	1	0	2	1	0	0
5	*Clematis* hybrid 'Nubia'	3	0	4	4	1	0
6	*Cornus alba* 'Baton Rouge'	3	0	1	1	0	2
7	*Euonymus fortunei* 'Emerald Gaiety'	4	0	2	3	0	4
8	*Geranium wallichianum* 'Rozanne'	1	1	3	3	0	0
9	*Hebe x fransciscana* 'Variegata'	1	0	1	1	0	1
10	*Helenium autumnale* 'Short n Sassy'	0	0	5	4	0	3
11	*Hosta* 'Shadowland Empress Wu'	2	0	4	3	0	1
12	*Hydrangea paniculata* 'Framboisine'	0	0	2	3	0	0
13	*Jasminum officinale*	2	0	3	4	0	3
14	*Lavandula angustifolia* 'Hidcote'	0	0	1	3	0	3
15	*Lonicera japonica*	3	0	5	5	0	3
16	*Lonicera nitida* 'Garden Clouds Gopper Glow'	3	0	4	4	0	3
17	*Philadelphus maculatus* 'Mrs EL Robinson'	3	0	4	4	0	1
18	*Photinia x fraseri* 'Scarlet Blaze'	4	0	4	4	0	4
19	*Potentilla fruticosa* 'Abbotswood'	2	0	2	4	0	4
20	*Prunus laurocerasus* 'Etna'	1	0	1	1	0	2
21	*Salvia nemorasa* 'Caradonna'	1	0	5	5	0	5
22	*Sambucus nigra* 'Black Beauty'	1	0	5	4	0	4
23	*Sedum* 'Rose Carpet'	1	0	3	3	0	4
24	*Spiraea japonica* 'Shirobana'	4	0	1	4	0	4
25	*Stipa arundinacea*	0	0	0	2	0	4
26	*Veronica x media* 'Ulster Blue Dwarf'	0	2	2	3	0	5

Table key

Score	Visual injury	Impact on saleability
0	None	Fully marketable
1	Very slight	Minor cosmetic damage, marketable
2	Mild	Some visible defects, slightly reduced market value
3	Moderate	Defects noticeable, moderate market loss
4	Severe	Significant loss of marketability
5	Plant death	Not marketable

Photographic summary of the plant symptoms noted over time by treatment

Product	7-day assessment	14-day assessment	42-day assessment
Emerger			
Goltix Titan	No visible damage		No visible damage
Coded A			

Product	7-day assessment	14-day assessment	42-day assessment
Broadway Star	**No visible damage**		
HDC H43	**No visible damage**	**No visible damage**	
SP16788	**No visible damage**		

Summary of symptoms observed after the first herbicide treatments (7-42 DAT)

- **Treatment 2** (Emerger) 7 days after treatment (DAT) the only visible symptom was an orange deposit due to the product formulation and colour of the concentrate. By 14DAT species like Lonicera, Philadelphus, Photinia, and Salvia showed chlorotic leaf spotting and a marmorated appearance of top growth or overall chlorosis of the growing points. By 42DAT a much more severe marble yellowing symptom was visible.

- **Treatment 3** (Goltix Titan) no visible symptoms were seen 7DAT on any of the test plots. The treatment produced minimal leaf curl and chlorosis by 14DAT on Buddleja, Geranium, Hosta, Lonicera, and Veronica and the treatment appeared to be relatively safe. By 42DAT very slight visible injury was still noticeable on Geranium and Veronica.

- **Treatment 4** (Coded 1) strong leaf curling and twisting was expressed from 7DAT. Some species like Hebe and Helenium appeared wilted and dehydrated. It was very clear the product had almost instantaneous impact on the test plant species. At 14DAT a severe damage was noticeable on Buddleja, Clematis, Geranium, Lonicera, Salvia, Sambucus, and Veronica. All of these test subjects were not marketable by 42DAT. This treatment carries significant risk to crops with the exception of grass species and Ceanothus, although even on Ceanothus some twisting was also noticeable. Species like Sedum also developed a leaf cupping on the growing points and lost flower buds.

- **Treatment 5** (Broadway Star) was very slow to show injury, and after 7DAT only Lonicera showed a necrotic leaf edge effect and upward cupping of the necrotic area, as well as overall leaf bronzing. Subsequently by 14DAT, Buddleja, Philadelphus, Salvia, and Sambucus also started to show leaf cupping and slight chlorosis which was followed by necrosis of the leaf tissue. By 42DAT a growth retarding effect was obvious on the grasses, which have not shown any signs of new growth. A similar effect was also visible on Lavandula, where growth was suspended even after 42DAT.

- **Treatment 6** (HDC H43) at 7DAT no visible symptoms were observed. By 14DAT Buddleja, Clematis, Lonicera, Salvia and Veronica were showing mild chlorosis, although the Veronica also started to exhibit early signs of necrosis on the leaf edges. At 42DAT all species which showed mild symptoms fully recovered with the exception of Clematis, which still expressed a very mild leaf tip necrosis and overall chlorosis.

- **Treatment 7** (SP16788) was the slowest to show any symptoms, but by 14DAT a bleaching effect appeared suddenly. The leaf bleaching occurred in the growing tips and most recent leaves, with some leaf deformation. In contrast to all the other treatments, the damage continued to increase over time with this treatment, and the bleaching effect became more severe resulting in leaf drop and tip necrosis on evergreens and an intense white bleaching with a pink tinge developed on subjects like Clematis, Helenium, Jasminum, Photinia, Salvia, and Veronica.

(**Treatment 1** was the untreated control).