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Supplementary Material

Weed control, corn safety, and mechanism of the novel herbicide HW-3

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Table S1. Sensitivity of different types of corn to HW-3 and mesotrione.

Herbicide	Application dose (g a.i. ha ⁻¹)	Varieties of corn					
		Common corn (<i>Zheng Dan 958</i>)		Sweet corn (<i>Su Ke Tian 1506</i>)		Glutinous corn (<i>Su Yu Nuo 606</i>)	
		FW (mg) ± SE	IFW (%)	FW (mg) ± SE	IFW (%)	FW (mg) ± SE	IFW (%)
HW-3	0	37035±2457a	0.00	44396±2172a	0.00	40195±3468a	0.00
	9.375	36668±1768a	0.99	44270±1490a	0.28	39820±2040a	0.93
	18.75	36528±369a	1.37	43028±1193a	3.08	39618±3753a	1.44
	37.5	36180±1783	2.31	42172±3899a	5.01	38803±1089a	3.46
	75	34810±1537	6.01	41634±1676a	6.22	38460±4212a	4.32
	150	34430±1652	7.03	41124±3257a	7.37	37940±3127a	5.61
Mesotrione	0	39823±459a	0.00	44503±4313a	0.00	37443±3216a	0.00
	12.5	39287±2081a	1.35	43220±2690a	2.88	37308±3377a	0.36
	25	38283±584a	3.87	42683±249a	4.09	36878±1797a	1.51
	50	37680±1214a	5.38	41510±6929a	6.73	36143±2928a	3.47
	100	37233±3890a	6.50	41153±2588a	7.53	35443±1828a	5.34
	200	36130±1973a	9.27	40790±4445a	8.34	35045±4088a	6.40

Abbreviations: FW, fresh weight; IFW, inhibition rate of fresh weight; SE, standard error.

Values followed by different lower case letters indicate significance level of fresh weight at different application doses to two herbicides.

Table S2. Sensitivity of corn with different leaf stages to HW-3.

Application dose (g a.i. ha ⁻¹)	Different leaf stages of corn					
	1.5-leaf stage		3.5-leaf stage		5.5-leaf stage	
	FW (mg) ± SE	IFW (%)	FW (mg) ± SE	IFW (%)	FW (mg) ± SE	IFW (%)
0	39800±1462a	0.00	37035±2457a	0.00	53583±1923a	0.00
9.375	39343±1035a	1.15	36668±1768a	0.99	53365±3507a	0.41
18.75	38505±604a	3.25	36528±369a	1.37	52585±2149a	1.86
37.5	38300±601a	3.77	36180±1783a	2.31	52385±2629a	2.23
75	37130±2016a	6.71	34810±1537a	6.01	51705±1967a	3.5
150	35440±1696a	10.95	34430±1652a	7.03	50813±1249a	5.17

Abbreviations: FW, fresh weight; IFW, inhibition rate of fresh weight; SE, standard error.

Values followed by lower case letters indicate significance level of fresh weight at different application doses to two herbicides.

Figure S1. The straight-line regression equation of the standard curve for the detection of PDH activity.

