

**Table 2.2-16. Spray additives and rainfastness for “burndown” and postemergence corn herbicides.**

<i>Herbicide</i>	<i>Adjuvant(s)<sup>1</sup></i>	<i>Rate</i>	<i>Rainfastness (hours)</i>
2,4-D amine	none, except in certain tank-mixes	—	6–8
2,4-D LVE			1–2
Accent	crop oil concentrate or nonionic surfactant plus nitrogen solution or ammonium sulfate	1 gal/100 gal 1–2 qt/100 gal 2–4 qt/A or 2–4 lb/A	4
+ atrazine	crop oil concentrate plus nitrogen solution or ammonium sulfate	1 gal/100 gal 2–4 qt/A or 2–4 lb/A	
+ Banvel, Clarity, Marksman, Buctril, or Buctril + atrazine	nonionic surfactant plus nitrogen solution or ammonium sulfate	1 qt/100 gal 2–4 qt/A2–4 lb/A	
Aim	nonionic surfactant or crop oil concentrate	2 pt/100 gal 1 gal/100 gal	1
Atrazine	crop oil concentrate	1 gal/100 gal	1–2
Banvel	nonionic surfactant or nitrogen solution	1 qt/100 gal 2–4 qt/A	4
Basis	crop oil concentrate or nonionic surfactant plus nitrogen solution or ammonium sulfate	1–2 gal/100 gal 1–2 qt/100 gal 2–4 qt/A 2–4 lb/A	4
+ Clarity or Banvel	nonionic surfactant or crop oil concentrate plus nitrogen solution	1–2 qt/100 gal 1–2 gal/100 gal 2–4 qt/A	
+ atrazine, Marksman, Hornet, Tough	crop oil concentrate plus nitrogen solution	1–2 gal/100 gal 2–4 qt/A	
Beacon/NorthStar	nonionic surfactant or crop or vegetable oil concentrate plus nitrogen solution or ammonium sulfate (optional)	1 qt/100 gal 1–4 pt/A 2–4 qt/A 2–4 lb	4
+ Banvel, Buctril, Buctril + atrazine, Clarity, Marksman, or 2,4-D	nonionic surfactant	1 qt/100 gal	
Buctril + atrazine <sup>2</sup>	nonionic surfactant or crop oil concentrate or nitrogen solution	1 qt/100 gal 1 gal/100 gal 1–4 gal/100 gal	1
Buctril <sup>2</sup>	nonionic surfactant or crop oil concentrate or nitrogen solution	1 qt/100 gal 1 gal/100 gal 1–4 gal/100 gal	1
Callisto	crop oil concentrate plus nitrogen solution or ammonium sulfate	1 gal/100 gal 2.5 gal/100 gal 8.5 lb/100 gal	1
Clarity <sup>3</sup>	nonionic surfactant or crop oil concentrate plus nitrogen solution	1 qt/100 gal 1 gal/100 gal 2–4 qt/A	4
Celebrity Plus	nonionic surfactant plus nitrogen solution or ammonium sulfate	1–2 qt/100 gal 1–2 qt/A 1–2 lb/A	4
Distinct	nonionic surfactant plus nitrogen solution or ammonium sulfate	1 qt/100 gal 5 qt/100 gal 7 lb/100 gal	4
Durango/Duramax DMA	no NIS/COC required ammonium sulfate (optional)	8.5–17 lb/100 gal	1

(continued)

**Table 2.2-16. Spray additives and rainfastness for “burndown” and postemergence corn herbicides (continued).**

<i>Herbicide</i>	<i>Adjuvant(s)<sup>1</sup></i>	<i>Rate</i>	<i>Rainfastness (hours)</i>
FieldMaster	no NIS/COC required ammonium sulfate (optional)	17 lb/100 gal	2
Glyphosate(if not fully loaded with formulation adjuvants)	nonionic surfactant plus ammonium sulfate (optional)	2 qt/100 gal 8.5–17 lb/100 gal	6
Gramoxone Inteon	nonionic surfactant or crop oil concentrate	1 pt/100 gal 1 gal/100 gal	0.5
Halex GT	nonionic surfactant plus ammonium sulfate	1–2 qt/100 gal 8.5–17 lb/100 gal	1–6
Harmony SG	nonionic surfactant or crop oil concentrate plus nitrogen solution or ammonium sulfate	1 qt/100 gal 1 gal/100 gal 2–4 qt/A2–4 lb/A	1
Hornet	nonionic surfactant or methylated seed soil plus nitrogen solution (optional)	1 qt/100 gal 1 qt/100 gal 2.5 gal/100 gal	2
Impact	methylated seed oil or crop oil concentrate plus nitrogen solution or ammonium sulfate	1.0–1.5 gal/100 gal 1.0–1.5 gal/100 gal 1.25–2.5 gal/100 gal 8.5 lb/100 gal	
Laddok or Basagran <sup>4</sup>	crop oil concentrate plus nitrogen solution or ammonium sulfate	2 pt/A 1 gal/A 2.5 lb/A	8
Laddok + 2,4-D	nitrogen solution or ammonium sulfate	1 gal/A 2.5 lb/A	8
Laudis	methylated seed oil (MSO) or crop oil concentrate plus nitrogen solution or ammonium sulfate	1 gal/100 gal 1 gal/100 gal 1–5 qt/A 1.5 lb/A	1
Liberty/Ignite 280	ammonium sulfate	3 lb/A	4
Lightning	nonionic surfactant plus nitrogen solution or ammonium sulfate	1 qt/100 gal 1–2 qt/A 2.5 lb/A	1
Marksman <sup>5</sup>	nonionic surfactant or crop oil concentrate or nitrogen solution or ammonium sulfate	1 qt/100 gal 1 gal/100 gal 2–4 qt/A 2–2.5 lb/A	4
Option/Equip	methylated or ethylated seed oil plus nitrogen solution or ammonium sulfate	1.5 pt/A 1.5–2 qt/A 1.5–3 lb/A	2
Permit	nonionic surfactant or crop oil concentrate plus nitrogen solution (optional)	1–2 qt/100 gal 1 gal/100 gal 2–4 qt/A	4
+ atrazine	crop oil concentrate	1 gal/100 gal	
+ Banvel, Clarity, Marksman, 2,4-D, Buctril, or Buctril + atrazine	nonionic surfactant	1–2 qt/100 gal	
Ready Master ATZ	none	—	1–6
Resolve/Resolve Q/Require Q	crop oil or modified seed oil concentrate or nonionic surfactant plus nitrogen solution or ammonium sulfate	1 gal/100 gal 1 qt/100 gal 2 qt/A 2 lb/A	4
Resource	crop oil concentrate plus nitrogen solution (optional)	1 pt/A	1
Roundup/glyphosate	nonionic surfactant plus ammonium sulfate (optional)	2 qt/100 gal 8.5–17 lb/100 gal	6

(continued)

**Table 2.2-16. Spray additives and rainfastness for “burndown” and postemergence corn herbicides (continued).**

Herbicide	Adjuvant(s) <sup>1</sup>	Rate	Rainfastness (hours)
Roundup PowerMax/Roundup WeatherMax	no NIS/COC required ammonium sulfate (optional)	— 8.5–17 lb/100 gal	<1
Spirit+ 2,4-D, Banvel, Clarity, Marksman, Buctril, or Buctril + atrazine+ atrazine or Tough+ Accent or Beacon	crop or vegetable oil concentrate or nonionic surfactant plus nitrogen solution or ammonium sulfate	1–4 pt/A 1–2 qt/100 gal 2–4 qt/A 2–4 lb/A	4
	nonionic surfactant	1–2 qt/100 gal	
	crop oil concentrate	1–4 pt/A	
	nonionic surfactant plus nitrogen solution or ammonium sulfate	1–2 qt/100 gal 2–4 qt/A 2–4 lb/A	
Status	nonionic surfactant or crop oil concentrate or methylated seed oil plus nitrogen solution or ammonium sulfate	1 qt/100 gal 1–2 pt/A 1–2 pt/A 5 qt/100 gal 5–17 lb/100 gal	
Steadfast	crop oil concentrate or nonionic surfactant plus nitrogen solution or ammonium sulfate	1 gal/100 gal 1–2 qt/100 gal 2 qt/A 2 lb/A	4
Steadfast ATZ	crop oil or modified seed oil concentrate or a nonionic surfactant plus nitrogen solution or ammonium sulfate	1 gal/100 gal 1 qt/100 gal 2 qt/A 2 lb/A	4
Stinger	none	—	6–8
Stout	crop oil or modified seed oil concentrate or nonionic surfactant plus nitrogen solution or ammonium sulfate	1 gal/100 gal 1 qt/100 gal 2 qt/A 2 lb/A	4
Touchdown Total	no NIS/COC required plus ammonium sulfate (optional)	— 8.5–17 lb/100 gal	1–6
Touchdown HiTech	nonionic surfactant plus ammonium sulfate (optional)	1 qt/100 gal 8.5–17 lb/100 gal	1–6
Yukon	nonionic surfactant or crop oil concentrate plus nitrogen solution or ammonium sulfate (optional)	1–2 qt/100 gal 1 gal/100 gal 2–4 qt/A 2–4 lb/A	

1. In general, nonionic surfactants should contain at least 80% surface active agent; crop or vegetable oil concentrates should be nonphytotoxic, containing at least 15% approved emulsifier; nitrogen solution is an ammonium-based fertilizer such as 28%, 30%, or 32% N; and ammonium sulfate should be spray-grade dry ammonium sulfate (21-0-0). 10-34-0 also may be used with some products.
2. When Buctril or Buctril+atrazine is applied alone, spray additives generally are not needed and may cause excessive leaf burn.
3. Do not use COC after corn exceeds 5 inches tall; Adjuvant addition depends on tank-mix partner.
4. Use crop oil concentrate if lambsquarters, common ragweed, Canada thistle, yellow nutsedge, or field bindweed are present. Include nitrogen solution if velvetleaf is the primary target.
5. Do not use COC if corn has emerged.