



## Cotton Harvest Aid Cheat Sheet

Hunter Frame, Field Crops Agronomist, TAREC

**Methods to Determine When to Defoliate Cotton (For accurate timing of defoliation use a combination of the methods below)**

1. Percent Open Boll: The rule of thumb is that it is safe to defoliate when 60% of the bolls are open. To calculate this take a 3-10 foot section of row and count the total number of bolls and number of open bolls. Divide the number open by the total and multiply by 100 (open bolls/total bolls x 100). Do this in several spots in the field, especially if there is a lot of variation in plant heights.
2. Nodes Above Cracked Boll (NACB): Find the uppermost first position cracked boll and count the nodes upward to the uppermost harvestable boll. When  $NACB \leq 4$  the crop may be safely defoliated if the uppermost harvestable boll is mature. **(See Sharp Knife Technique)**
3. Sharp Knife Technique (Boll Maturity Test): Using a sharp knife, select the uppermost harvestable boll (4-5 nodes down the main stem) and make a cross cut through the boll. If the bolls are hard to cut through and seed coats have turned brown then the boll is considered mature. **(This method should be used to validate the previously described methods.)**



**Table 1:** Commonly used cotton harvest aid products and their associated ratings compiled from other recommendations throughout the Southeast and Midsouth United States.

Herbicidal Defoliant	Hormonal Defoliant	Desiccants	Active Ingredient	Leaf Removal		Boll Opener	Regrowth Suppression	Label Application Rates	Recommended Rate†			Est. Min. Temp. °F	Small Grain Restrictions
				Mature	Juvenile				90°F Highs/ 70+°F Lows	80-90°F Highs/ 60-70°F Lows	< 80°F Highs/ < 60°F Lows		
									per Acre				
Aim® EC			carbentrazone	E	E	None	P	0.25-1.6 oz	0.75-1 oz	0.75-1 oz	1.0 oz	55	None
Def®			tribufos	E	F	None	P	16-24 oz	4-24 oz‡	16-24 oz	8-24 oz	60	None
ET®			pyraflufen ethyl	E	E	None	P	1.5-2.75 oz	1.5 oz	1.5 oz	1.5 oz	55	None
Folex®			tribufos	E	F	None	P	16-24 oz	4-24 oz‡	16-24 oz	24 oz	60	None
Glyphosate ††			glyphosate	F	F	None	E	11-44 oz	19-32 oz	19-32 oz	-	55	None
Harvade®			dimethapin	E	F	None	P	8-10 oz	8 oz	8 oz	8 oz	55	6 Months
	Dropp SC®		thidiazuron	E	E	None	E	1.6-6.4 oz	1.6-2.5 oz	1.6-3.2 oz	-	65	14 days
	Ethephon® 6		ethephon	F	P	E	P	21-37 oz	21-24 oz	24-37 oz	32-37 oz	60	30 days
	Finish 6 Pro®		ethephon+cyclanilide	E	P	E	F	21-37 oz	21-24 oz	21.28-24 oz	28-32 oz	60	1 month
	FirstPick™		ethephon+urea sulfate	E	P	E	P-F	48-112 oz	58-64 oz	64 oz	64 oz	60	30 days
	Ginstar®		thidiazuron+diuron	E	E	None	E	6.4-16 oz	6.4-8 oz	6.4-8 oz	6-10 oz	60	1 month
	Prep®		ethephon	E	P	E	P	21-37.28 oz	21-24 oz	24-37 oz	32-37 oz	60	30 days
		Paraquat	paraquat	F	E	F	P	3.1-32 oz	-	-	1-6 oz	55	None
		Sodium Chlorate	sodium chlorate	F	F	None	P	4.5 lb a.i.	3 lb a.i.	4 lb a.i.	4 lb a.i.	55	None

† Recommended application rates and ratings compiled from the 2012 North Carolina Cotton Production Guide, 2012 Georgia Cotton Production Guide, Mid-south Defoliation Guide and University of Tennessee Cotton Harvest Aid Guide.

‡ Lower than label rates are only used when tank mixed with other boll opening or regrowth suppression formulations.

†† Glyphosate is only effective as a defoliant on non-glyphosate resistant varieties.