

Harvest Aids/Desiccants for Guar

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This is a 2013 summary. Since then AgriLife Extension, Lubbock, has conducted field harvest aid trials in guar, to be summarized with weed science colleagues by May 1, 2017.

Guar is an indeterminate crop, meaning it will continue to grow albeit at reduced rates if conditions are favorable. This may hinder timely harvest where most of the plant has mature seed/pods, but the plant retains foliage and the stem is green and very tough to combine. *I often observe that guar is dropping a significant amount of leaves, up to 50% or more, while a significant portion of pods are not yet mature, so this complicates the timing of a harvest aid application.* Without at least moderate leaf area applied harvest aid chemicals may be limited in their effect. Timely harvest aid use will terminate growth when little additional yield would be added, and preserve the potential seed gum quantity and gum quality by bringing guar out of the field 1 to 2 months sooner than otherwise possible.

In general, desiccation/defoliation with burn-down type chemicals like paraquat and sodium chlorate is favored on clear, calm, sunny days with high temperatures and high humidity. If rain is anticipated within 24 hours, application should be delayed whenever possible. Defoliation may be delayed when daytime temperatures fall below 60°F, especially when vigorous regrowth may occur. If foliage is heavy then complete coverage becomes difficult, and in some cases a second application may be considered.

Harvest Aids/Desiccants

Paraquat (30.1%)

Common example: Gramoxone Inteon

Two sections of the label discuss pre-harvest/desiccation use for paraquat in guar. The intended differences between the two sections are not clear.

1) Pre-harvest desiccation

2.0 pints/A using ground application 10 gallons of water per acre, with minimum 4-day pre-harvest interval. Up to 3 applications per year.

Apply after the pods are fully mature (this is problematic in an indeterminate crop, so I recommend growers interpret this as 'when targeted harvestable pods are fully mature'). Do not graze treated areas or use the treated forage for animal feed.

2) Harvest aid—this is a more restrictive section of the label. (Guar is grouped with numerous types of dry beans like garbanzo beans, pinto beans, black-eyed peas.)

1.2-2.0 pints/A. For ground application, 20 gallons of water per acre; aerial application, 5 gallons of water per acre. Pre-harvest interval, minimum 7 days. Up to 2 applications per year, not to exceed 2.0 pints per acre per year.

Do not apply when weather conditions favor spray drift. A drift control agent may be included to reduce spray drift. Use of nonionic surfactant (NIS) or crop oil concentrate (COC) with Gramoxone (paraquat) is suggested.

Additives for paraquat—Always add one of the following as the label notes that failure to use one of the following at recommended rates will result in reduced performance of paraquat.

NIS: Add NIS containing 75% or more surface-active agent at a minimum of 0.125% v/v (0.5 quart per 100 gallons) OR add a NIS containing 50-74% surface-active agent at minimum of 0.25% v/v (1 quart per 100 gallons) of the finished spray volume for ground applications. For aerial applications, add NIS at 0.25% v/v.

COC: Add a nonphytotoxic crop oil concentrate or methylated seed oil containing 15-20% approved emulsifier at 1.0% v/v (8 pints or 1 gallon per 100 gallons of carrier) of the finished spray volume for ground application. For aerial applications, add 1 pint of COC per acre.

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Sodium Chlorate (52%)

Common example: Drexel Defol 750

3.2 quarts/A. For ground application, 10-20 gallons of water per acre; aerial application, 5-10 gallons of water per acre. Apply 7-10 days before anticipated harvest date.

Use to facilitate harvest and reduce moisture in fully mature seed pods (see note on paraquat regarding target seed maturity). Do not graze or feed crop residues to livestock.

What about Glyphosate (41-49%)

Common examples: Roundup Ultra (41.0%), Roundup WeatherMax (48.8%), Roundup PowerMax (48.7%)

Glyphosate products list guar along with numerous other legumes for a variety of pre-plant, pre-emerge, and post-harvest applications, but the label appears to limit pre-harvest applications to only a few legume vegetable crops NOT including guar.

I have asked for clarification of the label from Monsanto. Desiccation/harvest aid application rate for other legume vegetables is 22 ounces/A at 3 to 20 gallons per acre carrier volume

when hard dough stage of the seed is <30% moisture (e.g., physiologically mature). {NIS, 0.25-0.50% or 1 to 2 quarts per 100 gallons of carrier volume for NIS that is ≥70%.active ingredient; Ammonium sulfate (AMS), 1-2% or 8.5-17 lbs. per 100 gallons of water may increase performance especially in drought conditions or in hard water.}

For ready online access to multiple chemical labels consult:

- Chemical Management Data Systems, www.cdms.net To use the free database, log in then: 1) click 'Services' then 'Labels/MSDS,' 2) enter the desired product name in the search box (keep the name simple, for example 'Prowl' rather than 'Prowl H₂O' to ensure you return all labels for Prowl products), 3) select the label of your choice, then 4) choose the main label or any supplemental labels you might need. You may also search by active ingredient (Click 'Services' then 'Other search options,' register with CDMS to search by crop, active ingredient, chemical type, state, etc.).
- Greenbook, www.greenbook.net, where your search category includes product name, active ingredient, crop, or pest (registration required).

Chemical & Worker Safety

Herbicide safety is paramount. For emergency medical treatment information call the emergency number listed on your chemical label, or your local 9-1-1 if you can't get the label. If you have an accident and must require examination and possible treatment take the chemical label with you.

This publication is no substitute for the herbicide product labels! It is intended to serve only as a guide for controlling weeds in sorghum. Because labeled rates and restrictions change constantly, consult a current product label before use.

The information given herein is for educational purposes only. Reference to commercial products or trade names is made with the understanding that no discrimination is intended and no endorsement by Texas AgriLife Extension Service is implied.

Additional Guar Resources

<http://lubbock.tamu.edu/guar>

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