

USING HARVEST AIDS FOR SOYBEANS

Desiccants are commonly used harvest aids to remedy problems that may interfere with efficient soybean harvest. Desiccants can kill green tissue (leaves, stems, pods) on soybean plants and green weeds.

Purposeful desiccation prior to soybean harvest is an option to consider:

- In ESPS plantings in the midsouthern USA where an earlier open canopy allows weed resurgence before soybean maturity and subsequent harvest, and
- When soybean plants have green leaves and stems but pods are mature and ready for harvest.

A preharvest desiccant will be needed if weed densities are high enough to lead to increases in:

- Soybean seed moisture and damaged soybean seed, and/or
- More foreign material in the harvested seed, and/or
- Decreased combine speed and subsequent decreased harvest efficiency.

A preharvest desiccant will not be needed or should not be used if:

- Weeds that are present at maturity emerged late in the growing season and their size will not interfere with harvest or result in increased foreign matter in the harvested seed.
- Weeds that are present have not produced mature seeds that will contaminate the grain.

- The desiccant cannot be applied sufficiently ahead of harvest so as to ensure that targeted weeds are dry at harvest, or that preharvest interval (PHI) restrictions in the harvest aid label can be met. This may be the case in the high temperature, low humidity conditions common to August when the time between maturity of soybean, or 95% mature pod color, and harvest maturity may be as little as 5 to 7 days and the required interval between desiccant application and harvest is 7 to 15 days, depending on the desiccant.

Important points to consider if a preharvest desiccant is used are:

- A desiccant will not dry down a “butter bean”; it will merely dry the pods, making them easier to harvest.
- Weeds that are drought stressed will not be desiccated effectively.
- Desiccants such as [Gramoxone Inteon](#) are excellent for killing green vegetation, but do not remove excessive moisture from the seed. The addition of [sodium chlorate](#) to a desiccant can help to remove excessive moisture from green soybean tissue and/or seed, as well as weed vegetation.
- Be prepared to harvest soybean as soon after desiccation as allowed by the desiccant label.
- Do not desiccate soybeans just before a rain if possible.
- Using preharvest desiccants will not result in a yield increase for soybeans. The advantage comes from better quality of harvested seed,

earlier harvest, and/or increased harvesting efficiency.

Research conducted by Joseph M. Boudreaux and James L. Griffin at Louisiana State University was published in Vol. 25 of “Weed Technology” journal. Their results provide a definitive guide for when a desiccant can be applied to soybeans so as not to reduce yield, effect earlier harvest, and provide the required PHI as stipulated by the desiccant label (Click [here](#), [here](#), and [here](#) for detailed results from these studies).

- Soybean yield was not reduced when harvest aid was applied at 40% or lower average seed moisture content.
- Applying a harvest aid at 40% seed moisture content resulted in earlier harvest that was generally outside the PHI stipulated on the desiccant label.
- The 40% seed moisture content roughly coincides with stage R6.5, which the authors describe as “pod cavities have completely filled and all seed are separating from the white membrane inside the pod”. This is pictorially shown in slide 14 of “[Harvest Aids in Soybean—Application Timing and Value](#)”, and on p. 2, frame 10 of “[Guide to Soybean Growth Stages](#)”.

- Waiting until 30% seed moisture content to apply Gramoxone Inteon as stipulated on its label (see below) did not allow the required 15-day PHI to accommodate early harvest, and waiting until the end of the PHI did not result in earlier harvest.

The [budgets](#) for ESPS soybean in Mississippi include a desiccation application of paraquat + sodium chlorate at a cost of about \$15.50/acre. Therefore, presence of the above conditions that will justify this input should be determined to ensure it is cost-effective without a yield increase.

Desiccant products and their rates of application that can be used are listed on page 55 of the [Mississippi Weed Control Guidelines](#) (see below).

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