

Soybeans Harvest Aid Recommendations For 2012

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In Louisiana, most soybean varieties represent maturity group (MG) III and IV (indeterminate); and MG V and VI (determinate). Flowering of *indeterminate* soybeans is initiated in the lower portion of the plant and proceeds upward; terminal buds continue growing several weeks after flowering. There can be considerable difference in seed maturity with bottom seed reaching maturity first. With the variation in seed maturation, indeterminate soybeans tend to retain leaf material and stems remain green later into the growing season. In contrast, flowering of *determinate* soybeans is initiated in the middle portion of the plant and proceeds towards the top and bottom; terminal bud growth ceases when flowering begins. While there may be some slight difference in seed maturity on the plant, most seed mature at the same time.

Paraquat was initially marketed as a harvest aid to desiccate weeds and improve harvest efficiency. The Gramoxone Inteon/paraquat label states that application to *indeterminate* soybean varieties should be made when at least 65 percent of the seed pods have reached a mature brown color or when seed moisture is 30 percent or less. For *determinate* varieties, paraquat should be applied when plants are mature, i.e., beans are fully developed, half of the leaves have dropped, and remaining leaves are yellowing. The label also states that soybean should not be harvested earlier than 15 days after application. Where morningglory vines are present, 15 days may be needed to fully desiccate vines. Timing of application is critical and if harvest aid is applied too early and foliage is removed before all seed on the soybean plant have reached maximum dry weight, significant yield loss can occur.

Application Timing:

Leaf drop should not be used to determine application timing; leaf retention can vary by variety and growing conditions

Pod color may not be the best timing tool
Best to concentrate on seed development in the pods

PRE-HARVEST DESSICANTS:

Carfentrazone @ 0.023 lb/A

Aim 2EC (2 lb active ingredient per gallon) – apply 1.4 oz/A

Add 1% v/v crop oil concentrate.

Will desiccate weeds (vines more so than pigweed, sicklepod, etc.); little effect on soybeans

Apply after crop has matured and grain has begun to dry down.

Do not apply within 3 days of harvest.

Apply in 10 gallons water per acre by ground, 5 gallons by air

Paraquat @ 0.126 - 0.25 lb/A

Gramoxone 2L (2 lb active ingredient per gallon) - apply 8 to 16 oz/A

Paraquat products 3L (3 lb active ingredient per gallon) – apply 5.3 – 10.7 oz/A

Always add 0.25% v/v nonionic surfactant (1 quart per 100 gallons of water)

Will desiccate weeds and soybeans; weak on vines

Apply in 10 gallons of water per acre by ground, 5 gallons by air

Do not apply within 15 days of harvest

Sodium chlorate

Sodium Chlorate 6L (6 lb active per gallon) – apply 1 gallon/A

Sodium Chlorate 3L (3 lb active per gallon) – apply 2 gallon/A

Will desiccate weeds and soybeans; level of control affected by environmental conditions.

Apply 7 to 10 days before harvest

Apply in 20 gallons of water by ground, 5 gallons by air

Check label for environmental conditions most favorable for desiccation.

Apply under high temperatures and humidity.

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FIGURE 1


(Picture 1) Application of harvest aid when seed in the top portion of plants are at this stage will result in reduced seed weight and yield.




FIGURE 2

(Picture 2) It is safe to apply harvest aid when seed in the top portion of plants are at this stage.

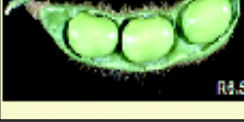
How to Determine When to Apply Harvest Aid?



From: Blum, J. and J. B. Harbeck. R5



From: Stone, J. and J. B. Harbeck. R8



From: J. B. Harbeck. R8.5

Start looking closely at plants when yellowing of leaves is first observed.

Collect pods from the top four nodes of plants at random across the field.

Open pods and look for separation of beans from the white membrane inside the pod.

If separation has occurred for all pods collected, seed are at physiological maturity (around 50% moisture) and have reached maximum dry weight.

It is safe to remove leaves without affecting seed weight.