

# Enlist and Xtend: What Boom Specifications Are Required?

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## Key Points to Remember:

1. The minimum spray volume for Enlist Duo, Xtendimax with VaporGrip, Engenia, and FeXapan plus VaporGrip is 10 gallons per acre.
2. Ground speed for applications of Xtendimax with VaporGrip, Engenia, and FeXapan plus VaporGrip cannot exceed 15 miles per hour.
3. Boom height during applications of Enlist Duo should be specific to the nozzle used.
4. Boom height during applications of Xtendimax with VaporGrip, Engenia, and FeXapan plus VaporGrip cannot exceed 24 inches.
5. Nozzles to be used during applications of Xtendimax with VaporGrip, Engenia, and FeXapan plus VaporGrip are listed on websites associated with each herbicide.

Enlist Duo is the only herbicide product that contains 2,4-D labeled for application to crops in the Enlist Weed Control System. Xtendimax with VaporGrip, Engenia, and FeXapan plus VaporGrip are the dicamba herbicide products labeled for crops in the Roundup Ready Xtend Crop System in Mississippi. None of these herbicides may be applied in aerial applications. Additionally, labeling for all herbicides in both systems have specific directions for how sprayers should be configured to optimize efficacy while minimizing the potential for off-target movement.

Spray volume for applications of Xtendimax, Engenia, and FeXapan must be  $\geq 10$  gallons per acre. Similarly, Enlist Duo should be applied in spray volumes of 10 to 15 gallons per acre. Glyphosate is a unique herbicide that is effective over a fairly broad range of application volumes, so volume was rarely a concern when Palmer amaranth of any size could be completely controlled with a single glyphosate application. Therefore, a minimum spray volume with herbicides in the Enlist and Xtend system may seem strict. However, the Roundup PowerMAX II label specifies that tank mixtures including this herbicide must be applied in spray volumes of 10 to 20 gallons per acre. Liberty 280 also requires spray volumes  $\geq 10$  gallons per acre.



A maximum ground speed during application is not specified on labeling for Enlist Duo; however, ground speed for applications of Xtendimax, Engenia, and FeXapan cannot exceed 15 miles per hour. As with minimum spray volumes of 10 gallons per acre, ground speeds  $\leq 15$  miles per hour may seem restrictive. However, labeling for Liberty 280 also restricts ground speed during application to  $\leq 15$  miles per hour.

While spray volume and ground speed restrictions for the new auxin herbicide formulations are not terribly restrictive compared with other commonly used herbicides, one application requirement that is restrictive is boom height during application. No maximum boom height is specified for Enlist Duo. The Spray Drift Management section of the Enlist Duo label instructs applicators to “use the minimum boom height based upon the nozzle manufacturer’s directions.” Boom height during applications of Xtendimax, Engenia, or FeXapan cannot exceed 24 inches. Even though this maximum boom height seems impractical, the restriction is clearly stated on the labels, so it must be observed.

Detailed specifications for nozzles type and size has not been a common component of herbicide labels to date. In general, contact herbicides are more effective at a medium droplet size, which is commonly achieved with flat-fan nozzles. The systemic nature of glyphosate contributes to its efficacy when applied with more coarse droplets through induction-type nozzles. Labeling for Enlist Duo, Xtendimax, Engenia, and FeXapan list specific nozzle types and sizes. The Enlist Duo label allows application with 23 different nozzles with a range of manufacturers, nozzle types, and sizes represented. Xtendimax, Engenia, and FeXapan all have associated websites (URLs found at bottom of this post), which are considered extensions of the federal labels, where lists of approved nozzles can be found. The [Xtendimax](#) website currently lists 20 nozzles with a range of manufacturers, nozzle types, and sizes represented. TeeJet TTI11004 and TTI11005 are listed as approved nozzles for [Engenia](#). Currently, [FeXapan](#) may only be applied with the TeeJet TTI11004 nozzle. Nozzles with which the new dicamba formulations can be applied changed multiple times during the last month, and it is likely they will change again before the time for in-season herbicide applications.

More information for each of these herbicide products can be found at the following sites:

Enlist Duo: [www.enlisttankmix.com](http://www.enlisttankmix.com)

Xtendimax with VaporGrip: [www.xtendimaxapplicationrequirements.com](http://www.xtendimaxapplicationrequirements.com)

Engenia: [www.engeniatankmix.com](http://www.engeniatankmix.com)

FeXapan plus VaporGrip: [www.fexapanapplicationrequirements.dupont.com](http://www.fexapanapplicationrequirements.dupont.com)

Producers interested in purchasing auxin-containing herbicides intended for in-crop use on 2,4-D- or dicamba-tolerant crops must first complete mandatory online training. The self-paced online training may be accessed 24/7 at <http://www.auxintraining.com> via most devices, including tablets and personal computers. In Mississippi, additional conditions placed on the use of these auxin herbicides prohibit producers from applying herbicides in wind speeds in excess of 10 miles per hour. Applicators are required to keep application records. Licensed pesticide dealers are required to keep records pertaining to the sales of these herbicides.