

UNL Weed Science Update 2011

Lowell Sandell and Mark Bernards

12/03/2010

Corn Herbicides

Callisto Xtra™ [atrazine (3.2 lb ai/gal) + mesotrione (0.5 lb ai/gal)]. Callisto Xtra is a new premix of atrazine and Callisto from Syngenta. It is labeled for post-emergence application in field corn, seed corn, silage, sweetcorn, popcorn (yellow), and sugarcane. It can be applied to corn up to 12" tall. Mode of Action (MoA): atrazine is a photosystem II inhibitor and mesotrione is a HPPD inhibitor. EPA Reg. No. 100-1359. Restricted Use Pesticide.

Prequel® [rimsulfuron (15%) + isoxaflutole (30%)]. Prequel is a new premix herbicide from DuPont for preemergence use in field corn. Prequel will provide residual broadleaf and grass control in a planned two pass herbicide program. The use of residual herbicides can help manage or prevent the development of glyphosate-resistant weed biotypes and reduce early season weed competition. MoA: rimsulfuron is an ALS inhibitor and isoxaflutole is an HPPD inhibitor. EPA Reg. No. 352-779. Restricted Use Pesticide.

TripleFLEX™ [acetochlor (3.75 lb ai/gal) + clopyralid (0.38 lb ai/gal) + flumetsulam (0.12 lb ai/gal)]. TripleFLEX is a premix from Monsanto for preemergence use in field corn and silage. This product can be applied from 30 days preplant to early post emergence (11" corn or 2" weeds). TripleFLEX controls both broadleaf and grass weeds and is designed for use in a planned two pass herbicide program. The use of residual herbicides can help manage or prevent the development of glyphosate-resistant weed biotypes and reduce early season weed competition. MoA: acetochlor is a seedling growth inhibitor, clopyralid is a growth regulator, and flumetsulam is an ALS inhibitor. EPA Reg. No. 62719-570-524.

Soybean Herbicides

Authority® XL [sulfentrazone (62.22%) + chlorimuron (7.78%)]. Authority XL is a new premix from FMC. It can be applied burndown (fall or spring), preplant, or preemergence for residual broadleaf control in soybean. The use of residual herbicides can help manage or prevent the development of glyphosate-resistant weed biotypes and reduce early season weed competition. MoA: sulfentrazone is a PPO inhibitor and chlorimuron is an ALS inhibitor. EPA Reg. No. 279-3413.

Know how. Know now.



Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska-Lincoln cooperating with the Counties and the United States Department of Agriculture.

University of Nebraska-Lincoln Extension educational programs abide with the nondiscrimination policies of the University of Nebraska-Lincoln and the United States Department of Agriculture.

Herbicides Labeled for Use in Multiple Crops

Fierce™ [flumioxazin (33.5%) + pyroxasulfone (42.5%)]. Fierce is a new premix from Valent for preemergence control of broadleaf and grass weeds. It will be labeled for use in soybeans and no-till & minimum till corn. The use of residual herbicides can help manage or prevent the development of glyphosate-resistant weed biotypes and reduce early season weed competition. MoA: flumioxazin is a PPO inhibitor and pyroxasulfone is a seedling growth inhibitor. EPA Reg. No. Registration pending.

Pyroxasulfone is a new herbicide active ingredient that will first be marketed in Fierce™ herbicide. It is a preemergence, seedling growth inhibitor. Users should expect performance and control of a similar weed spectrum as obtained with other seedling growth inhibitors such as metolachlor, acetochlor, and dimethenamid-P (small seeded broadleaves and most annual grasses). There will likely be a number of new products and premixes with pyroxasulfone in future years.

Solida™ [rimsulfuron (25%)]. Solida is a new rimsulfuron product from Cheminova. It is labeled for preemergence and post-emergence use in field corn, potatoes, and a number of other crops and sites. MoA: rimsulfuron is an ALS inhibitor. EPA Reg. No. 67760-105.

Verdict™ [saflufenacil (0.57 lb ai/gal) + dimethenamid-P (5.0 lb ai/gal)]. BASF marketed saflufenacil and dimethenamid-P as Integrity in the 2009 and 2010 cropping seasons. It will now be marketed as Verdict. The Verdict label will require the use of an MSO plus AMS or UAN for optimum performance in burndown applications. In addition to field corn, popcorn, and sorghum, use in soybeans has been added to the Verdict label. When used preemergence in soybeans the 5 oz/ac rate will provide the same saflufenacil rate as 1 oz/ac of Sharpen and the application must occur prior to soybean emergence. The use of residual herbicides can help manage or prevent the development of glyphosate-resistant weed biotypes and reduce early season weed competition. MoA: saflufenacil is a PPO inhibitor and dimethenamid-P is a seedling growth inhibitor. EPA Reg. No. 7969-279.

Warrant™ [acetochlor (3.0 lb ai/gal)]. Warrant is an encapsulated acetochlor formulation from Monsanto for post-emergence use in soybean and cotton. It also has a supplemental label for post-emergence application in corn up to 30". Drop nozzles are recommended if corn is greater than 24". Warrant is a seedling growth inhibitor and is not effective on emerged weeds. The post-emergence use of Warrant is intended to provide residual control of late germinating grasses and small seeded broadleaves, such as waterhemp. This will help manage some glyphosate-resistant biotypes and reduce selection pressure for other glyphosate-resistant biotypes. MoA: acetochlor is a seedling growth inhibitor. EPA Reg. No. 524-591.

Know how. Know now.



Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska–Lincoln cooperating with the Counties and the United States Department of Agriculture.

University of Nebraska–Lincoln Extension educational programs abide with the nondiscrimination policies of the University of Nebraska–Lincoln and the United States Department of Agriculture.

Herbicides in Other Crops/Sites

Aminocyclopyrachlor is a new growth regulator herbicide active ingredient developed by DuPont. It controls many annual and perennial broadleaf species and some woody species. It will first be marketed as Imprelis for use in cool season turfgrasses and some warm season turfgrass species. In the future, it will likely be market in other products for use in other crops and sites.

Imprelis™ [aminocyclopyrachlor (2.0 lb ae/gal)]. Imprelis is a new product and active ingredient from DuPont. It is labeled for post emergence broadleaf control in cool season turfgrass and some warm season turfgrass. It controls many important annual and perennial broadleaf weeds, including ground ivy. MoA: aminocyclopyrachlor is a growth regulator. EPA Reg. No. 352-793.

Opensight™ [aminopyralid (52.5% ae) + metsulfuron (9.45%)]. Opensight is labeled for control of susceptible weeds and woody plants in non-crop areas including industrial sites, rights-of-way, non-irrigation ditch banks, natural areas, and grazed areas in and around these sites. Opensight and Chaparral have the same active ingredients and formulation and share the same EPA registration number. MoA: aminopyralid is a growth regulator and metsulfuron is an ALS inhibitor. EPA Reg. No. 62719-597.

WeedSOFT Website (www.weedsoft.org)

WeedSOFT is a bioeconomic model that aids users in making weed management decisions. In 2009 WeedSOFT was converted from a CD based program to an online application free to the public. The new website is <http://www.weedsoft.org>.

The WeedSOFT WebAdvisor is a valuable teaching tool to demonstrate how weed competition impacts crop yield, how herbicides differ in selectivity and soil residual characteristics, and how profitability is affected by different weed management techniques. The model currently contains functions for corn and soybean. Crop yield loss and weed germination and emergence functions are based on observations of weed scientists in the North Central Region of the United States.

At the model interface, the user is prompted to enter information on the crop and crop growth stage, weeds present and their sizes, the timing of herbicide application, and to select up to four potential herbicide treatments for comparison. The output provides information to the user on 1) yield loss due to competition from weeds prior to herbicide application, 2) yield loss due to competition from weeds not controlled by the herbicide application, 3) yield loss due to competition from weeds that emerge following the herbicide application, 4) percent control of selected weed species and expected economic return for a specific weed management program.

Know how. Know now.



Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska–Lincoln cooperating with the Counties and the United States Department of Agriculture.

University of Nebraska–Lincoln Extension educational programs abide with the nondiscrimination policies of the University of Nebraska–Lincoln and the United States Department of Agriculture.

Additional weed management tools, the "Yield Loss Calculator," the "Tank-mix Calculator," and the "Burndown Analyzer," are also available at <http://www.weedsoft.org>. The Yield Loss Calculator is a simplified version of the WebAdvisor, giving the user a quick estimate of yield loss from a specified weed population and the impact of allowing weeds to compete with the crop for additional growth stages. The Tank-mix Calculator has a new and improved printout feature and the new Burndown Analyzer provides information on herbicide selection for winter annual weeds.

Weed Science Website Updated (weedscience.unl.edu)

In May of 2008, the UNL Weed Science website (<http://weedscience.unl.edu>) was redesigned to provide more services for users. The web address has not changed, so existing bookmarks and links are still valid. The new home page includes a Current Topics section listing timely article on weed management issues, an easy to access collection of UNL's Neb Guides and Extension Circulars and other important weed management publications in PDF format, and interactive herbicide efficacy tables. Annual research reports are also added to the website each year. We will continue to add content from the Guide for Weed Management in a user friendly format on the web.

Know how. Know now.



Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska–Lincoln cooperating with the Counties and the United States Department of Agriculture.

University of Nebraska–Lincoln Extension educational programs abide with the nondiscrimination policies of the University of Nebraska–Lincoln and the United States Department of Agriculture.