

Integrated Pest & Crop Management

Meet Adam Leonberger, Plant Diagnostic Clinic Director

By Adam Leonberger



Adam Leonberger

My name is Adam J. Leonberger and I am the new director of the Plant Diagnostic Clinic at the University of Missouri, Columbia. I will be responsible for diagnosing plant health problems, weed and insect identifications and providing appropriate management recommendations in collaboration with State Extension Specialists. I

am also responsible for conducting training sessions for Master Gardener program, Pesticide Applicator Training, and other programs.

I was raised on the southeast side of Indianapolis, where I grew up in the garden helping my mother. I received a dual Bachelor of Science in plant biology and horticultural production and marketing and a Master of Science degree in plant pathology at Purdue University, West Lafayette. I was bitten with the phytopathology bug during my undergraduate research project screening Pythium isolates from the Purdue Plant and Pest Diagnostic Laboratory for fungicide resistance to mefenoxam. When it came time to move on to a graduate degree, Purdue was the only one willing to develop a degree program with an assistantship in their diagnostic clinic working alongside the diagnosticians. My Master's thesis was focused on surveying Phytophthora species present in nurseries and greenhouses.

With my background in plant disease diagnostics, I hope to assist growers, extension agents, and homeowners by providing them with timely and accurate diagnoses and suitable control options. I look forward to working with so many great people here. Samples can be mailed to the clinic at 23 Mumford Hall, Columbia, MO 65211 or, you can drop the

samples off in person at the same address. Photos and questions can be emailed to the clinic at plantclinic@missouri.edu. If you would like, you can call the clinic at 573-882-3019.

Adam Leonberger
LeonbergerA@missouri.edu
 (573) 882-0623

Table of Contents

Meet Adam Leonberger, Plant Diagnostic Clinic Director

Page 145

Missouri New Herbicide/Label Update for 2011

Page 146

Weather Data for the Week Ending

December 6, 2010

Page 144



Missouri New Herbicide/Label Update for 2011

By Kevin Bradley

I. Corn

Capreno is a new premix from Bayer CropSciences that contains Laudis (tembotrione) plus thiencazzone, a new ALS-inhibiting herbicide. Capreno is labeled for postemergence use through the V5 stage of corn at 3 ounces per acre and should provide broad-spectrum control of a variety of common summer annual grass and broadleaf weeds.

Prequel is a new premix from DuPont that contains rimsulfuron (Resolve) plus isoxaflutole (Balance Pro). Prequel is formulated as a 45%WDG and can be applied at 1.66 to 2.5 ounces of product per acre prior to corn emergence. The 1.66 ounce per acre rate will provide 1 ounce of Resolve per acre plus 2/3 ounce of Balance Pro per acre while the 2.5 ounce rate will provide 1.5 ounce of Resolve per acre plus 1 ounce of Balance Pro per acre. Prequel can be applied up to 30 days prior to planting and has burndown activity on a variety of winter annual and early-emerging summer annual weeds that might be typically present at the time of application in the early spring. Prequel also provides residual control of a variety of summer annual grass and broadleaf weeds.

TripleFLEX is a premix from Monsanto that contains acetochlor (Harness, others) plus clopyralid (in Hornet) plus flumetsulam (in Hornet). These active ingredients are present in the same ratio as in a similar product called SureStart from Dow AgroSciences. TripleFLEX can be applied at standard rates ranging from 1.5 to 2 pints per acre depending on soil type and organic matter content. There is also a supplemental label which allows a maximum rate of 3 pints per acre.

Verdict is a new name for **Integrity**, which was a premix from BASF introduced last season. Verdict contains Sharpen (saflufenacil) and Outlook (dimethenamid-P) in the same ratios as in Integrity. Verdict is labeled for preemergence use in field corn, silage, and popcorn at 10 to 16 ounces per acre depending on soil type. Verdict is also labeled for use in grain sorghum and unlike Integrity, Verdict will also be labeled for preemergence use in soybean at 5 ounces per acre, which will provide 1 ounce of Sharpen plus 4 ounces of Outlook per acre. Verdict cannot be applied postemergence to corn, grain sorghum, or soybean, or severe crop injury will result.

Warrant is a new encapsulated acetochlor from Monsanto that is labeled for over-the-top use in soybeans and cotton, but has also received a supplemental label for use in field corn. Warrant can be applied in corn from emergence up until corn reaches 30-inches in height, but should be applied before weeds emerge. Warrant has no post-emergence activity on weeds that are emerged at the time of application; therefore this product will have to be tank-mixed with other products that have activity on weeds that are present at the time of application.

II. Soybean

Authority XL is a new premix from FMC that contains Authority (sulfentrazone) plus chlorimuron (Classic). Authority XL is packaged as a 70DF formulation and is labeled at foundation rates of 3.2 to 4.5 ounces per acre for use in Roundup Ready or LibertyLink soybeans. The full use rates of Authority XL range from 5 to as much as 9.6 ounces per acre depending on soil texture and organic matter content. Authority XL offers both burndown and residual activity on a number of our common broadleaf weed species in Missouri.

Fierce is a new premix from Valent that contains Valor (flumioxazin) plus pyroxasulfone. Fierce is formulated as a 76% WDG and is labeled at rates ranging from 3 to 4.5 ounces per acre depending on soil type. The 3 ounce per acre rate provides approximately 2 ounces of Valor plus 1.5 ounces of pyroxasulfone. Pyroxasulfone is a herbicide that has been under development for many years from Kumiai Chemical. Many may have seen this product before in field trials under the code name KIH-485. Pyroxasulfone is a very long chain fatty acid inhibitor, similar to products like S-metolachlor (Dual II Magnum, others) and acetochlor (Harness, others). In field research trials that we have been conducting for a number of years, we have consistently seen an advantage of pyroxasulfone over other similar herbicides like S-metolachlor and acetochlor, particularly on larger-seeded broadleaf weeds like common ragweed and velvetleaf. However, our evaluations of pyroxasulfone usually occurred with 4 ounces of product per acre, not the 1 ounce per acre rate contained in Fierce. Our initial evaluations and comparisons of Fierce as a preemergence soybean herbicide last year showed that this product provides good control of a variety of small-seeded and some large-seeded broadleaf weeds, and also provides some control of common summer annual grass weeds as well.

LibertyLink Soybeans from Bayer CropSciences will have several new changes in the use pattern and rates of Ignite (glufosinate) that are allowed in-crop. The new seasonal maximum amount of Ignite will be increased from 44 to 65 fluid ounces product per acre, which allows users to apply 22 to 36 fluid ounces of product per acre in the first pass, and 22 to 29 fluid ounces of product per acre in the second pass.

Verdict is a new name for **Integrity**, which was a premix from BASF introduced last season. Verdict contains Sharpen (saflufenacil) and Outlook (dimethenamid-P) in the same ratios as Integrity. Unlike Integrity, Verdict will also be labeled for preemergence use in soybean at 5 ounces per acre, which will provide 1 oz Sharpen plus 4 ounces of Outlook per acre.

Warrant is an encapsulated acetochlor from Monsanto that is labeled for over-the-top use in soybeans from emergence up to the R2 stage of soybeans, although this product has its best fit when applied to soybeans in the V2-V3 stage of growth. The standard application rate of Warrant is 3 pints per acre. Warrant has no post-emergence activity on weeds that are emerged at the time of application; therefore this product will have to be tank-mixed with other products like glyphosate in Roundup Ready soybeans in order to control weeds that are present at the time of application. Warrant will provide pre-emergence control of some grasses and a

variety of small-seeded broadleaf weeds like waterhemp that typically germinate later in the season.

For more information on all of these products, visit our website <http://weeds.cscience.missouri.edu/> and click on the "Research Results" tab.

Kevin Bradley
BradleyKe@missouri.edu
(573) 882-4039

COMMERCIAL PESTICIDE APPLICATOR TRAINING

COMING JANUARY 2011

Pesticide applicator training helps reduce the harmful effects of improper pesticide use. The University of Missouri Extension Commercial Pesticide Program provides educational outreach for individuals who wish to become licensed commercial pesticide applicators. Licensed applicators must pass an exam and participate in continuing education courses on environmentally sound uses of pesticides.

For more information on training dates and registration, visit us at <http://ppp.missouri.edu/pat>

Visit our Web site at ppp.missouri.edu

Weather Data for the Week Ending December 6, 2010

By Pat Guinan

Station	County	Weekly Temperature (°F)						Monthly Precipitation (in.)		Growing Degree Days‡	
		Avg. Max.	Avg. Min.	Extreme High	Extreme Low	Mean	Departure from long term avg.	Nov. 1- Nov. 30	Departure from long term avg.	Accumulated Since Apr. 1	Departure from long term avg.
Corning	Atchison	37	18	50	11	28	-5	1.77	-0.20	4077	+676
St. Joseph	Buchanan	37	20	52	13	28	-6	1.69	-0.12	3964	+540
Brunswick	Carroll	36	21	51	12	28	-7	1.48	-1.21	4087	+604
Albany	Gentry	35	18	50	10	27	-6	1.52	-0.45	3835	+476
Auxvasse	Audrain	36	22	52	13	28	-8	1.41	-1.88	4037	+505
Vandalia	Audrain	34	22	49	12	27	-10	1.28	-1.92	3990	+492
Columbia-Bradford Research and Extension Center	Boone	37	21	52	14	28	-9	1.85	-1.34	3975	+314
Columbia-Sanborn Field	Boone	37	23	53	17	30	-8	1.43	-1.81	4358	+576
Williamsburg	Callaway	36	21	52	13	28	-9	1.26	-2.36	4062	+586
Novelty	Knox	33	20	47	10	26	-8	1.42	-1.34	3753	+346
Linneus	Linn	34	20	50	11	27	-7	1.27	-1.16	3811	+491
Monroe City	Monroe	34	22	49	12	27	-8	1.07	-2.09	3923	+462
Versailles	Morgan	41	22	56	16	31	-8	2.02	-1.39	4379	+625
Green Ridge	Pettis	40	21	54	14	30	-6	2.76	-0.39	4143	+687
Lamar	Barton	44	25	60	18	33	-6	2.60	-1.18	4404	+461
Cook Station	Crawford	41	20	52	15	30	-9	4.71	+0.48	4017	+251
Round Spring	Shannon	42	21	51	17	31	-8	3.42	-0.81	3954	+359
Mountain Grove	Wright	42	22	54	16	31	-7	3.94	-0.46	4180	+605
Delta	Cape Girardeau	43	27	54	23	34	-7	5.22	+0.74	4553	+390
Cardwell	Dunklin	47	28	56	23	36	-7	4.85	+0.41	5020	+472
Clarkton	Dunklin	45	27	54	20	35	-7	4.48	+0.27	4969	+495
Glennonville	Dunklin	45	29	53	24	36	-6	3.44	-0.78	4968	+524
Charleston	Mississippi	44	26	55	19	34	-6	4.99	+1.15	4869	+695
Portageville-Delta Center	Pemiscot	46	29	55	23	37	-6	5.17	+1.12	5172	+672
Portageville-Lee Farm	Pemiscot	45	29	55	24	36	-7	4.75	+0.70	5164	+697
Steele	Pemiscot	48	30	57	24	37	-6	4.98	+0.46	5249	+741

* Complete data not available for report

‡Growing degree days are calculated by subtracting a 50 degree (Fahrenheit) base temperature from the average daily temperature. Thus, if the average temperature for the day is 75 degrees, then 25 growing degree days will have been accumulated.

Weather Data provided by Pat Guinan
 GuinanP@missouri.edu
 (573) 882-5908