



Corn/Forage Update 2015



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Today's topics....



2014 Corn silage variety results
--cover crops

2014 Problem weeds and issues...how should they be handled?
Glyphosate tolerant corn
Field bindweed

New Products

Aminopyralid herbicides—what you need to know



A Member of the University of Maine system

2014 Maine Corn Hybrid Performance Trial



Funding provided by local seed companies and the University of Maine Cooperative Extension.

Special thanks to John Stoughton and the farm crew at Misty Meadows Farm for hosting the trial and helping with planting and harvesting.

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Plots were 6 rows (15 ft) by 75
long
--36 varieties

--3 randomized plots per variety.



Figure 1. Effect of Relative Maturity on Corn Silage Yield (corrected to 30% DM) (2014)

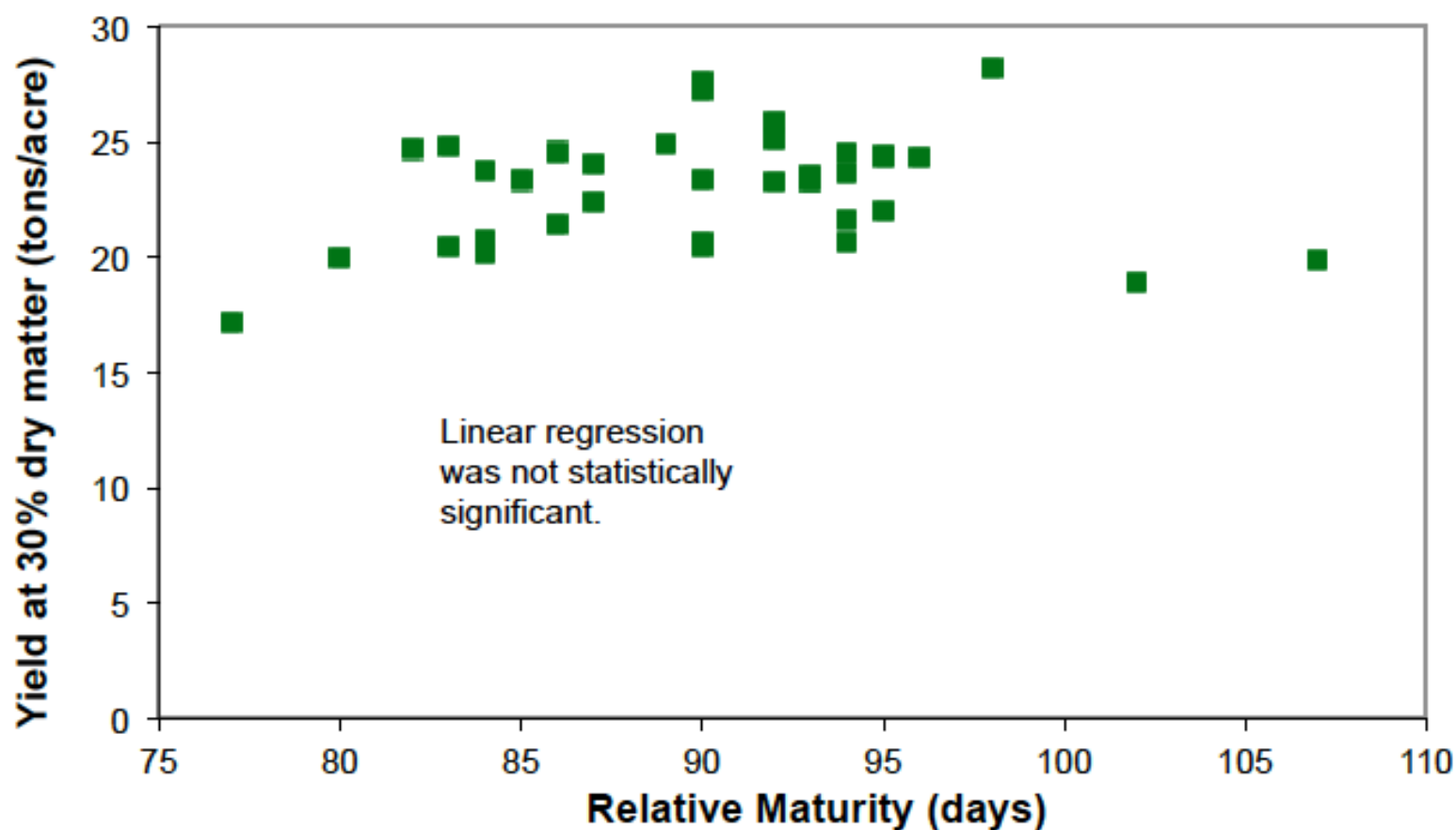


Figure 2. Effect of Relative Maturity on Expected Milk Yield Per Acre (2014)

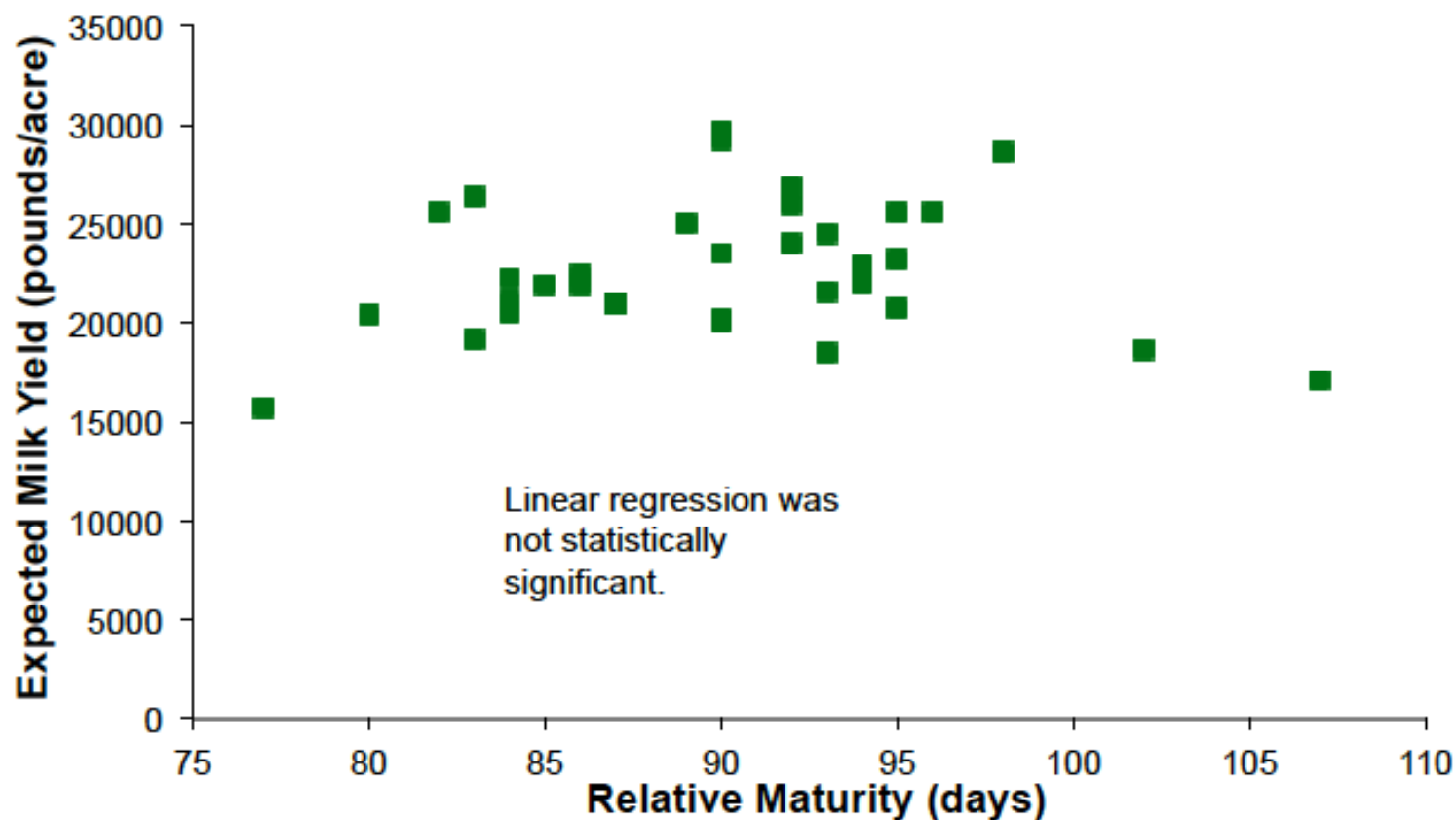


Figure 3. Effect of Relative Maturity on Dry Matter (2014)

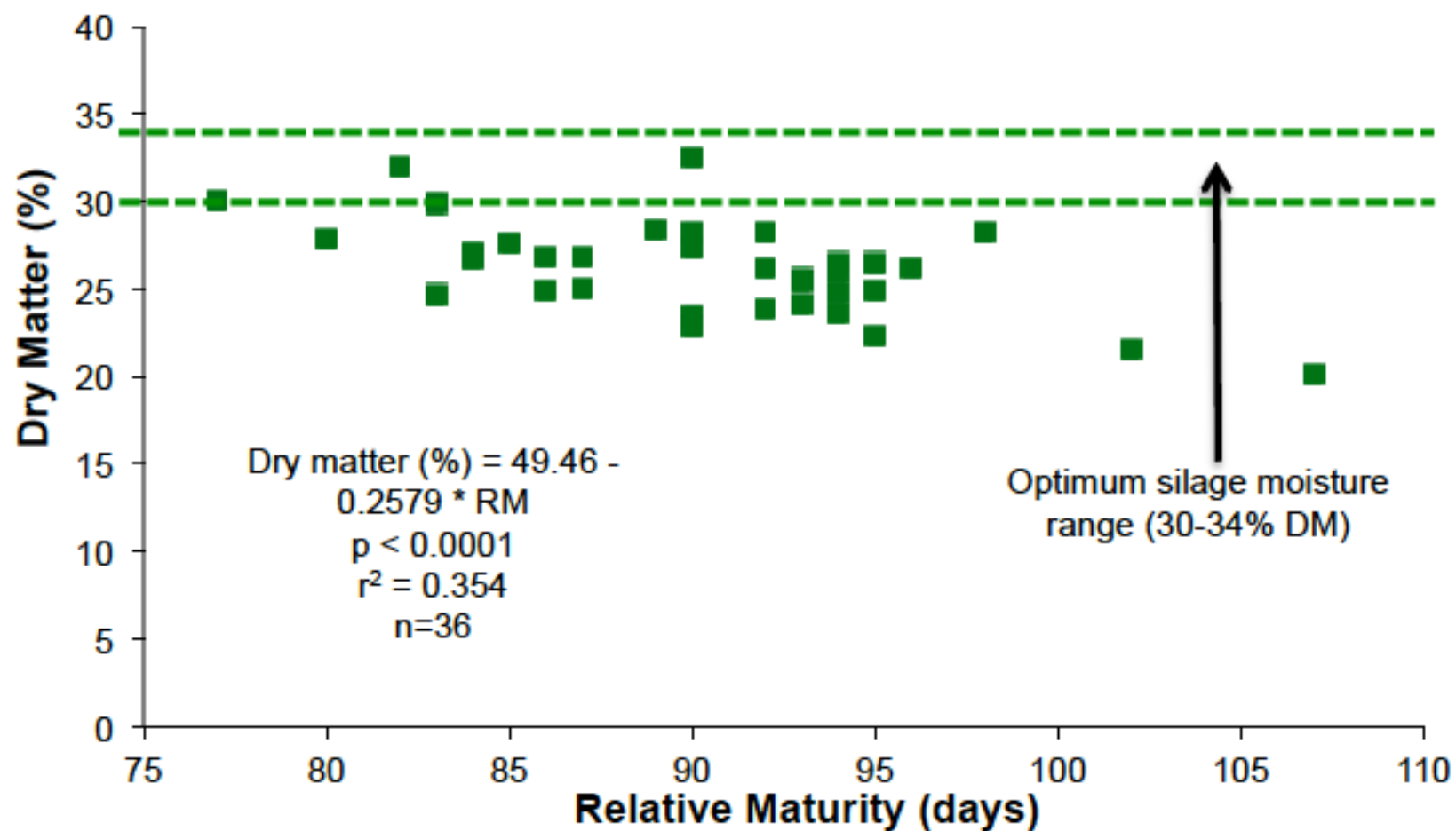


Table 4. Increase in yield (30% dry matter) and expected milk yield for each 10 days increase in relative maturity as estimated by linear regression (2007 – 2014).

	Tons/acre yield (30% DM) increase per 10 days maturity	Pounds/acre milk yield increase per 10 days maturity
2007	1.1	.
2008	0.97	.
2009	No relationship	91
2010	1.9	2890
2011	2	3280
2012	1.1	1480
2013	No relationship	No relationship
2014	No relationship	No relationship

Table 1. Growing degree days, Maine corn silage variety trial, 2007-2014.

Year	Location	Growing degree days (86/50)
2007	Clinton	2086
2008	Clinton	1840
2009	Leeds	1908
2010	Leeds	2120
2011	Clinton	2287
2012	Clinton	2160
2013	Clinton	2027
2014	Clinton	1933

Table 3. Varieties and yield, 2014.

Hybrid	RM	Yield, 30% DM (tons/acre)*		Expected milk yield (lbs/acre)***	
American Organics 90G	90	20.6	e-h	20267	h-n
American Organics PB5301	83	20.5	e-h	19171	j-n
American Organics PB6474	94	24.5	a-f	22427	d-l
Dairyland HiDF-3290-9	90	27.6	ab	29277	ab
DeKalb DKC 34-82	84	20.8	e-h	21103	f-m
DeKalb DKC 39-07	89	24.9	a-e	25058	a-h
DeKalb DKC 43-48	93	23.3	a-g	18460	l-n
DeKalb DKC 46-20	96	24.4	a-f	25613	a-g
Dynagro D26VP56	86	21.4	d-h	21904	e-m
Dynagro D32VC30	92	25.1	a-e	26012	a-f
Dynagro D35VC40	95	24.4	a-f	25607	a-g
Masters Choice MC 3221	82	24.7	a-f	25570	a-g
Masters Choice MC 4050	90	20.5	e-h	20064	i-n
Masters Choice MC 4211	92	25.9	a-d	26859	a-d
Masters Choice MC 480	87	22.4	c-g	20974	g-m
Mycogen 2D095	80	20.0	f-h	20428	h-n
Mycogen F2F378 bmr	94	21.6	d-h	22019	d-m
Mycogen TMF2Q413	98	28.2	a	28659	a-c
Mycogen TMF2R196RR	84	23.7	a-g	22254	d-l
NK N18Q-3011A	84	20.2	e-h	20531	h-n
NK N20Y-3220	85	23.3	a-g	21938	e-m
NK N28D-3111	90	27.3	a-c	29739	a
NK N29T-3220	92	23.2	b-g	24017	c-j
NK N31H-300GT	93	23.5	a-g	24519	b-i
NK N35T-3110	95	22.0	d-h	20778	g-m
NK N37R-2111	94	23.6	a-g	22918	d-l
Pioneer P0238XR	102	18.9	gh	18630	k-n
Pioneer P0783XR	107	19.9	f-h	17121	mn
Pioneer P9329AM	90	23.4	a-g	23540	d-k
Schlessman 835 GT 3122	83	24.8	a-f	26401	a-e
Schlessman 861 lfy GT3000	86	24.6	a-f	22429	d-l
Schlessman 861 SX 342 GT	95	24.5	a-f	23218	d-l
Seedway SW 1964GT	77	17.2	h	15735	n
Seedway SW 2901L	87	24.1	a-f	20995	g-m
Seedway SW 3301L	93	23.3	a-g	21582	e-m
Seedway SW 3937.bmr	94	20.7	e-h	22684	d-l

*Means followed by the same latter are not statistically different (Tukey's HSD)

** **Expected milk yield = calculated milk lbs/ton multiplied by dry matter yield. Calculated milk lbs/ton is a projection of potential milk yield per ton of forage dry matter, based on forage digestibility and energy content.

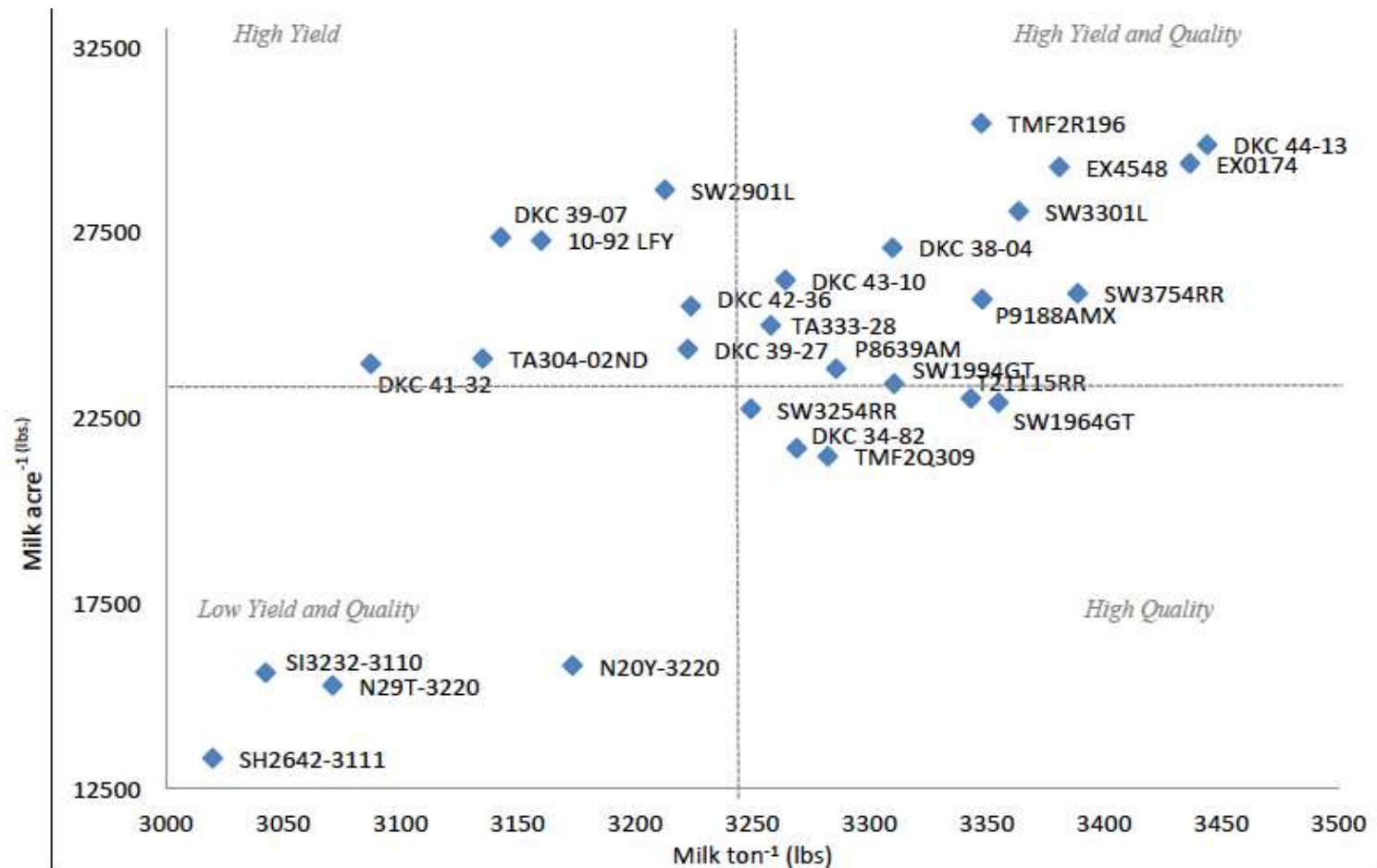


Figure 1. Relationship between milk per ton and milk per ac^{-1} for short season corn silage varieties grown in Alburgh, VT. Dotted lines represent the mean milk per ton^{-1} and milk per ac^{-1} .

NORTHWEST CROPS & SOILS PROGRAM





Why do I keep hammering on about shorter season corn varieties?

Cover crops.....More than just soil erosion

- field moisture
- nitrogen capture and retention
- soil organic matter
- improved weed control

Cover crops are essential for no-till corn management



Muddy harvests.....

- Aggravation!! Broken tractors, trucks, chains...
- Soil compaction (long term issue)
- Rutted fields
- Denitrification.. N_2O ...major greenhouse gas and \$ in the air!



Benefits of no-till corn and cover crops..

Soil Quality!!!!

Sample Description

DRY SOIL

WET SOIL

Test Results

No-till 4 years, rye cover crop (chemically killed) and liquid manure surface applied



7.81 ppm CO₂-C
SLAN: 390 lb/a N
SOM: 5.12%

Conventional tillage and liquid manure, but rye cover crop last 5 years and killed by incorporation



6.50 ppm CO₂-C
SLAN: 378 lb/a N
SOM: 4.64%

Conventional tillage, liquid manure incorporated, no cover crops



3.14 ppm CO₂-C
SLAN: 350 lb/a N
SOM: 3.96%

*Soils provided by Rick Kersbergen, UME Extension.

‡ A laboratory version of this test called the Soil Biology Test is available from UME Soil Test Lab in Orono Maine

Arial seeded cover crop...sown several weeks before harvest
Misty Meadows Farm 2014



What were some of the
issues we saw in 2014?

Glyphosate tolerant corn mistakes...



The number of herbicide resistant weed biotypes has increased from 404 to 437 in the past 12 months. A summary of resistant biotypes for various herbicide site-of-action groups is shown in Table 1. There have been 13 new cases of ALS (acetolactate synthase) inhibitor resistance (Group 2 herbicides) and 7 new cases of glyphosate (EPSP inhibitor) resistance (Group 9 herbicides) around the World during the past year. Along with these newly documented cases of herbicide resistance, there continues to be much media attention to this problem, especially related to glyphosate-resistant (GR) weeds.

Herbicide Group	Group #	Example Herbicide(s)	Total
ALS inhibitors	2	Resolve Q	146
Triazine	5	Atrazine	72
ACCase inhibitors	1	Fusilade DX	46
Glycine	9	Roundup, Touchdown, etc.	31
Bipyridillium	22	Gramoxone SL 2.0	31
Synthetic Auxin	4	2,4-D	30
Ureas and Amides	7	Lorox	25
Dinitroaniline, etc.	3	Prowl	12
Thiocarbamate, etc.	8	Eptam 7E	9
PPO inhibitors	14	Sharpen	6
Chloroacetamide, etc.	15	Dual II Magnum	4
Nitriles and others	6	Buctril	4
Glutamine synthesis inhibitors	10	Liberty 280 SL	2
HPPD inhibitors	27	Callisto	2
Others	-	-	17
Total Herbicide Resistant Weed Biotypes			437

TABLE 1E – Weed Control in Glyphosate-Resistant Corn

RECOMMENDATIONS: One application of glyphosate alone will not consistently provide season-long weed control. One of the three following strategies is recommended:

- 1) Soil-applied residual herbicide applied preemergence followed by glyphosate postemergence.
 - a) Preemergence herbicide options can be found in Tables 1A and 1C.
 - b) Glyphosate should be applied when weeds are 2-4 inches tall.
- 2) Postemergence tank-mixtures with glyphosate when weeds are 2-4 inches tall.
 - a) Several soil-applied residual herbicides can be tank-mixed with glyphosate and applied postemergence. Refer to Tables 1G and 1C for options. Tank-mixtures with some residual herbicides may cause temporary burn or discoloration.
 - b) There are many postemergence products that can be tank-mixed with glyphosate for additional weed control. Refer to Tables 1H and 1C for options.
 - c) There are several premixtures containing glyphosate that can be applied postemergence to glyphosate-resistant corn. Refer to Table 1B and the following section for options.
- 3) Split-applications of soil-applied residual herbicides with glyphosate.
 - a) Apply one-half to two-thirds of the soil-applied herbicide preemergence.
 - b) Apply the remainder of the soil-applied herbicide postemergence with glyphosate.

Weed Controlled	Herbicide	Rate lb/A a.i.	Formulation/A	Remarks and Limitations
Annual grasses Annual broadleaves Suppression of perennials	glyphosate + ammonium sulfate	0.75–1.13 a.e.	See Table 10 + 17 lb/100 gal	<ul style="list-style-type: none"> • Apply to GLYPHOSATE-RESISTANT Corn only. See above recommendations for appropriate use of glyphosate in glyphosate-resistant corn. • Corn hybrids that are glyphosate-resistant are designated as <i>Roundup Ready Corn</i>, <i>Roundup Ready 2 Corn</i>, or

Hedge/Field Bindweed

Perennial broadleaf
with creeping
rhizomes



Figure 4. Leaves shaped like an arrowhead have two pointed basal lobes that extend at right angles to the leaf midvein.



Field/Hedge Bindweed

Post-emergence is the only option for control during the corn year

--read label directions carefully!!

--corn plant sensitivity is an issue

--Control/suppression vs elimination?

Distinct is now “Status” ---dicamba and diflufenzopyr plus safener

-----Status application on corn from 4 inches to 36 inches tall

Table 1. Hedge bindweed control and grain corn yields 1 year after treatment with postemergence herbicide applications in 2004 and 2005 at Aurora, NY.

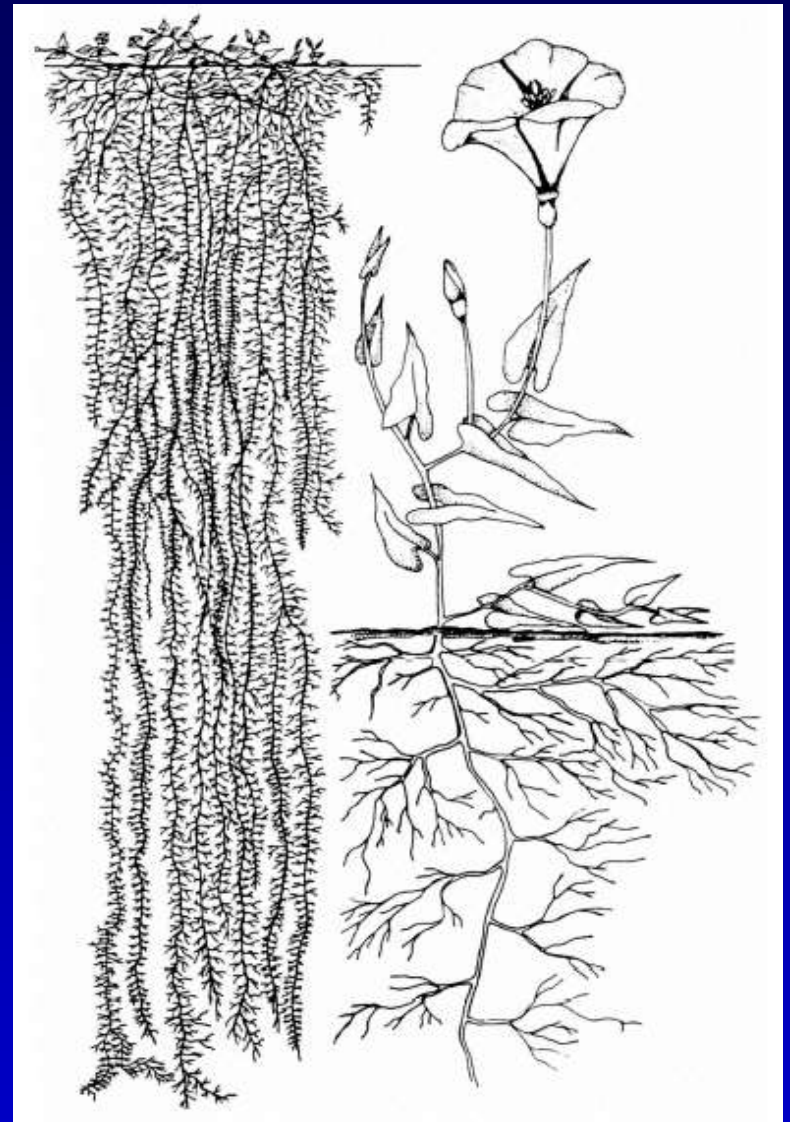
Herbicides*	Rate Amt/A	Control (%)		Yield (Bu/A)	
		Alone	+ 4 oz/A Clarity	Alone	+ 4 oz/A Clarity
Clarity	8 oz	88	-	144	-
Clarity	16 oz	91	-	145	-
Distinct**	4 oz	89	-	143	-
Distinct**	6 oz	92	-	150	-
RU WeatherMax	22 oz	61	87	111	135
Beacon	0.76 oz	17	87	32	143
NorthStar	5 oz	83	-	149	-
Exceed	1 oz	76	87	127	143
Permit	1 oz	31	89	54	145
Yukon	8 oz	89	-	141	-
Steadfast	0.75 oz	75	86	137	127
Untreated		0	-	15	-
LSD (0.05)				25	25

* Applied with 0.25% NIS and 2.5% UAN.

** Registration pending in NY State.

Long term Bindweed control

- Late summer/early fall is the best time to control deep rooted perennials (bindweed, milkweed etc.)
- Rotations are the long term solution!
- Reduced tillage/no-till corn is the easiest way to develop better crop rotations, especially in heavier soils.



**Root system of field bindweed,
Convolvulus arvensis.**

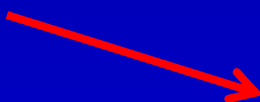
Redrawn from B. F. Kiltz. 1930. *J. Amer. Soc. Agron.* 22:216-234.

**TABLE 1A – Weed Response to Soil-Applied Herbicides
in Corn***

Soil Applied	SITE OF ACTION	CORN TOLERANCE**	ANNUAL BROADLEAVES											ANNUAL GRASSES								PERENNIALS				
			COCKLEBUR	JIMSONWEED	LAMBSQUARTERS	T-R LAMBSQUARTERSa	NIGHTSHADE (E. BLACK)	PIGWEEED	RAGWEED (COMMON)	RAGWEED (GIANT)	SMARTWEED	VELVETLEAF	WILD MUSTARD	BARNYARDGRASS	CRABGRASS	GIANT FOXTAIL	GREEN FOXTAIL	YELLOW FOXTAIL	FALL PANICUM	WITCHGRASS	SANDBUR	CANADA THISTLE	QUACKGRASS	YELLOW NUTSEDGE	JOHNSONGRASS (seedling)	JOHNSONGRASS (Rhizome)
ATRAZINE	5	1	F	F	E	N	E	G	E	G	G	F	E	G	P	F	F	G	P	P	P	F	P	F	N	N
BALANCE FLEXX	27	2	P	E	E	E	E	E	E	F	G	E	E	G	F	G	G	F	P	P	F	P	P	P	G	F
BREAKFREE NXT/DEGREE/HARNESS/ SURPASS NXT	15	2	P	N	F	F	G	G	F	N	P	P	P	E	E	E	E	E	E	E	F	N	N	F	P	N
CALLISTO	27	1	P	G	E	E	E	E	F	F	E	E	G	N	P	N	N	N	N	N	N	P	N	N	N	N
DUAL II MAGNUM/ CINCH/PARALLEL	15	1	N	N	P	P	F	G	P	N	P	N	P	E	E	E	E	E	E	E	F	N	N	F	P	N
MICRO-TECH	15	2	N	N	P	P	G	G	P	N	P	N	P	E	E	E	E	E	E	E	F	N	N	P	P	N
OUTLOOK	15	2	N	N	P	P	G	G	P	N	P	N	P	E	E	E	E	E	E	E	F	N	N	P	P	N
PRINCEP	5	1	F	F	E	N	E	G	E	F	G	F	E	G	F	F	G	P	P	P	P	P	F	F	F	N
PROWL H ₂ O ^b (PRE only)	3	3	N	N	G	G	P	F	P	N	P	F	P	G	G	G	G	G	G	G	G	N	N	N	P	N
PYTHON/ACCOLADE	2	3	F	F	E	E	G	E	F	P	G	G	E	P	P	P	P	P	P	P	P	N	N	N	N	N
RESOLVE SG	2	1	G	F	F	F	P	E	F	P	F	F	E	G	F	G	G	G	F	F	P	P	P	P	P	P
SHARPEN	14	1	G	G	G	G	G	E	G	F	G	G	G	N	N	N	N	N	N	N	N	P	N	N	N	N
VALOR ^c (7d EPP or more)	14	2	P	F	G	G	G	G	G	F	F	F	G	P	P	P	P	P	P	P	P	N	N	P	P	N
ZIDUA	15	1	P	F	F	F	G	E	F	N	F	F	F	E	E	E	E	E	E	E	F	N	N	F	F	N
Premixes																										
ANTHEM	15/14	1	P	F	F	F	G	E	F	N	F	F	F	E	E	E	E	E	E	E	F	N	N	F	F	N
ANTHEM ATZ	15/14/5	1	P	F	G	F	E	E	G	F	F	F	E	E	E	E	E	E	E	E	F	N	N	F	F	N
BASIS BLEND	2/2	1	G	F	G	G	P	E	F	P	F	F	E	G	F	G	G	G	F	F	P	P	P	P	P	P
BICEP II LITE MAGNUM/ CINCH ATZ LITE	5/15	1	F	F	G	P	E	G	G	F	F	F	E	E	E	E	E	E	E	E	F	P	N	F	P	N
BICEP II MAGNUM/CINCH ATZ/ PARALLEL PLUS	5/15	1	F	F	E	P	E	G	E	G	G	F	E	E	E	E	E	E	E	E	F	F	P	F	P	N
BREAKFREE NXT LITE DEGREE XTRA/FULTIME NXT/ KEYSTONE LA NXT	5/15	2	F	F	G	F	E	G	G	F	F	F	E	E	E	E	E	E	E	E	F	P	N	F	P	N
BREAKFREE NXT ATZ HARNESS XTRA/KEYSTONE NXT	5/15	2	F	F	E	F	E	G	E	G	G	F	E	E	E	E	E	E	E	E	F	F	P	F	P	N
BULLET/LARIAT	5/15	2	F	F	E	P	E	G	E	F	G	F	E	E	E	E	E	E	E	E	F	F	P	P	P	N
CORVUS	2/27	2	G	E	E	E	E	E	E	G	E	E	E	G	E	E	E	E	E	E	G	P	F	P	G	F
FIERCE ^c (7d EPP or more)	14/15	2	P	F	G	G	G	E	G	F	F	F	G	G	G	G	G	G	G	G	F	N	N	F	F	N
HORNET WDG/STANZA	2/4	3	G	F	E	E	G	E	E	G	G	G	E	N	N	N	N	N	N	N	N	F	N	N	N	N
INSTIGATE	2/27	1	G	G	E	E	E	E	F	F	E	E	E	G	F	G	G	G	F	F	P	P	P	P	P	P
LEXAR EZ/LUMAX EZ	5/27/15	1	F	G	E	E	E	E	E	G	E	E	E	E	E	E	E	E	E	E	F	F	P	F	P	N
SURESTART II/TRIPLEFLEX II ^d	2/4/15	3	G	F	E	E	G	E	G	F	G	G	E	E	E	E	E	E	E	E	F	P	N	F	P	N
VERDICT ^d	14/15	2	G	G	G	G	G	E	G	F	G	G	G	G	G	G	G	G	G	G	F	P	N	P	P	N
ZEMAX	27/15	1	P	G	E	E	E	E	F	F	E	E	G	E	E	E	E	E	E	E	F	P	N	F	P	N

TABLE 1B – Weed Response to Postemergence Herbicides in Corn*

			ANNUAL BROADLEAVES											ANNUAL GRASSES								PERENNIALS					
			COCKLEBUR	JIMSONWEED	LAMBSQUARTERS	T-R LAMBSQUARTERS ^a	NIGHTSHADE (E. BLACK)	PIGWEEED	RAGWEED (COMMON)	RAGWEED (GIANT)	SMARTWEED	VELVETLEAF	WLD MUSTARD	BARNYARDGRASS	CRABGRASS	GIANT FORTAIL	GREEN FORTAIL	YELLOW FORTAIL	FALL PANICUM	WITCHGRASS	SANDBUR	CANADA THISTLE	QUACKGRASS	YELLOW NUTSEDGE	JOHNSONGRASS (seedling)	JOHNSONGRASS (Rhizome)	
<i>Postemergence</i>	SITE OF ACTION	CORN TOLERANCE**																									
2,4-D	4	3	G	F	G	G	G	G	G	G	P	F	G	N	N	N	N	N	N	N	N	F	N	N	N	N	
ACCENT Q	2	2	F	G	F	F	P	E	P	N	G	F	P	E	P	E	E	E	E	E	E	G	F	G	F	E	G
AIM	14	3	P	F	F	F	G	E	E	G	P	P	E	F	N	N	N	N	N	N	N	N	N	N	N	N	N
ARMEZON/IMPACT	27	1	G	E	E	E	E	E	E	G	G	E	G	G	G	E	G	G	G	G	F	F	P	P	F	P	
ATRAZINE	5	1	G	G	E	N	G	E	E	G	G	F	E	F	P	F	F	F	P	P	P	F	F	F	N	N	
BANVEL/CLARITY	4	3	G	G	G	G	G	G	G	E	E	F	G	N	N	N	N	N	N	N	N	F	N	N	N	N	
BASAGRAN/BROADLOOM	6	1	E	G	F	F	P	P	F	P	G	F	E	N	N	N	N	N	N	N	N	G	N	G	N	N	
BEACON	2	2	E	G	F	F	G	E	E	E	G	G	F	P	P	F	F	F	G	G	F	F	G	F	G	F	
BUCTRIL/MOXY	6	2	G	G	E	E	G	F	G	G	G	G	F	N	N	N	N	N	N	N	N	P	N	N	N	N	
CADET	14	2	P	F	F	F	F	G	P	P	P	E	P	N	N	N	N	N	N	N	N	N	N	N	N	N	
CALLISTO	27	1	F	E	E	E	E	G	G	G	E	E	E	N	F ^b	N	N	N	N	N	N	P	N	P	N	N	
LAUDIS	27	1	G	E	E	E	E	E	G	G	G	E	F	G	F	G	G	E	N	P	F	P	P	P	F	P	
PERMIT	2	1	E	G	N	N	P	E	G	G	F	G	E	N	N	N	N	N	N	N	N	P	N	E	N	N	
RESOURCE	14	2	P	P	F	F	P	P	P	P	P	E	P	N	N	N	N	N	N	N	N	N	N	N	N	N	
STINGER	4	1	E	G	P	P	F	P	E	E	F	P	P	N	N	N	N	N	N	N	N	E	N	N	N	N	
<i>Premixes</i>																											
ANTHEM	15/14	2	P	F	F	F	F	G	P	P	P	E	P	N	N	N	N	N	N	N	N	N	N	N	N	N	
ANTHEM ATZ	15/14/5	2	G	G	E	F	G	E	E	G	G	E	E	F	P	F	F	F	P	P	P	F	F	F	N	N	
CALLISTO XTRA	5/27	1	G	E	E	E	E	E	E	G	G	E	G	N	F ^b	N	N	N	N	N	N	F	N	P	N	N	
CAPRENO	2/27	2	G	E	G	G	E	E	G	G	G	E	G	G	G	G	G	E	G	G	F	P	F	P	E	G	
HORNET WDG/STANZA	2/4	2	E	F	F	F	F	P	E	E	G	G	G	N	N	N	N	N	N	N	N	E	N	N	N	N	
MARKSMAN	4/5	3	G	G	E	G	G	E	E	E	E	E	G	P	N	P	P	P	N	N	N	F	P	F	N	N	
NORTHSTAR	2/4	2	E	G	G	G	G	E	E	E	G	F	G	P	P	F	F	F	G	G	F	F	G	F	G	F	
REALM Q	2/27	2	G	E	E	E	E	E	G	F	E	E	E	G	F	G	G	G	G	G	P	F	F	P	F	N	
REQUIRE Q	2/4	2	G	G	G	G	G	E	G	G	F	F	G	G	F	G	G	G	G	G	P	F	F	P	F	N	
RESOLVE Q	2/2	2	G	P	G	G	F	E	F	P	G	F	E	G	F	G	G	G	G	G	P	F	F	P	F	N	
SHOTGUN	5/4	3	G	G	E	G	G	E	E	G	E	F	E	N	N	N	N	N	N	N	N	F	N	N	N	N	
SOLSTICE	14/27	2	F	E	E	E	E	E	G	G	E	E	E	N	F ^b	N	N	N	N	N	N	P	N	P	N	N	
STATUS	4/19	2	E	G	E	E	G	E	E	E	E	E	G	P	P	P	P	P	P	P	P	N	N	N	N	N	
STEADFAST Q	2/2	2	F	G	F	F	P	E	P	N	G	F	G	E	F	E	E	E	E	E	G	F	G	F	E	G	
YUKON	2/4	2	E	G	G	G	G	E	G	G	G	G	E	N	N	N	N	N	N	N	N	P	N	E	N	N	
<i>Glyphosate-Resistant Corn</i>																											
GLYPHOSATE	9	1	E	E	G	G	G	E	G	G	G	G	E	E	E	E	E	E	E	E	E	G	E	F	E	E	
CALLISTO GT	9/27	1	E	E	E	E	E	E	G	G	E	E	E	E	E	E	E	E	E	E	E	G	E	F	E	E	
EXPERT	5/9/15	2	E	E	E	G	G	E	E	G	G	G	E	E	E	E	E	E	E	E	E	G	E	F	E	E	
FIELD MASTER	5/9/15	2	E	E	E	G	G	E	G	F	F	F	E	E	E	E	E	E	E	E	E	F	G	F	E	G	
HALEX GT	9/15/27	1	E	E	E	E	E	E	G	G	E	E	E	E	E	E	E	E	E	E	E	G	E	F	E	E	
SEQUENCE	9/15	1	E	E	G	G	G	E	G	G	G	G	E	E	E	E	E	E	E	E	E	G	E	F	E	E	
WARRANT + GLYPHOSATE	9/15	1	E	E	G	G	G	E	G	G	G	G	E	E	E	E	E	E	E	E	E	G	E	F	E	E	
<i>LibertyLink Corn</i>																											
LIBERTY	10	1	E	G	F	F	G	G	E	G	G	G	E	F	F	G	G	F	F	F	P	P	P	P	G	F	



New products for 2015

DiFlexx is another
post-emergence
broadleaf weed
control option



New product from Syngenta
28 days pre to corn 12 inches tall
4 active ingredients
bicyclopyrone, atrazine,
mesotrione and s-metolachlor
“Acuron”

Label Pending EPA Registration

- SYN-A197 is expected to be registered by the EPA for the 2015 use season
- SYN-A197 will be marketed as Acuron™ upon registration
- The label will be posted upon registration

Enlist Duo from Dow is Glyphosate plus 2,4-D



Limited registration in mid-western
states

Aminopyralid Herbicides....caution!!!

Aminopyralid is the active ingredient in Milestone and Forefront herbicides

Broadleaf weed control in pastures was the main agronomic labeled use

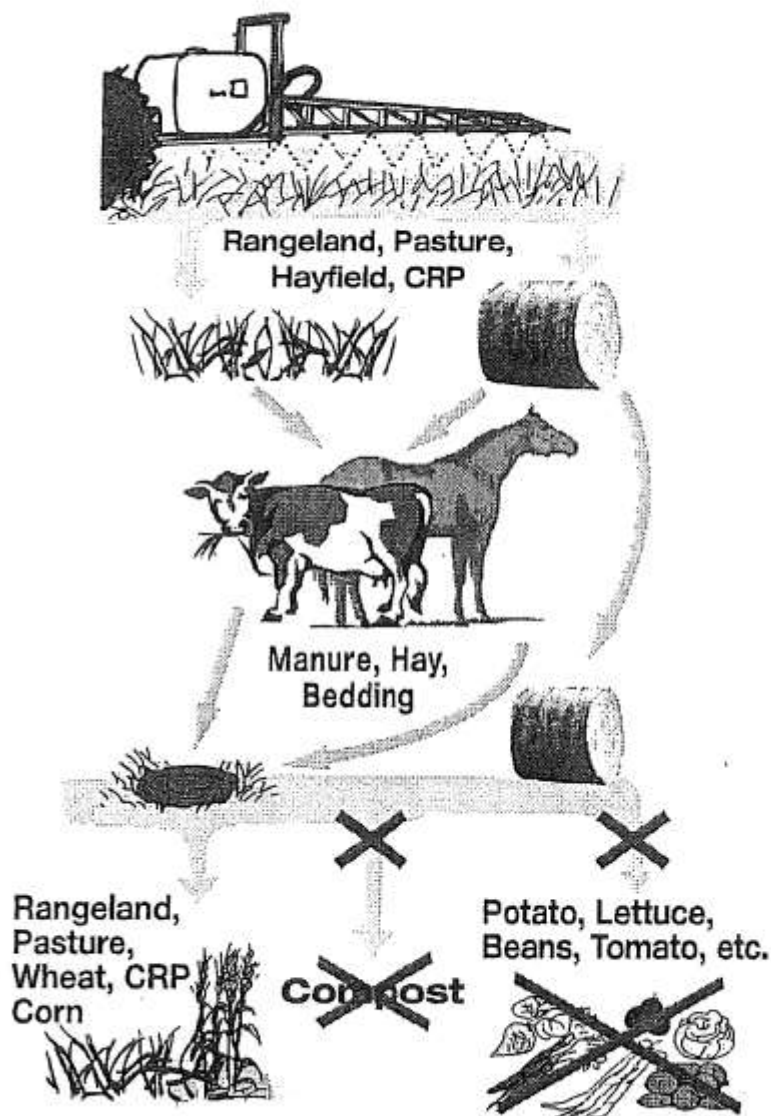
Provided excellent Smooth Bedstraw control...but....

This Active ingredient is very, very persistent

IMPORTANT USE PRECAUTIONS AND RESTRICTIONS TO PREVENT INJURY TO DESIRABLE PLANTS

- Carefully read the section "*Restrictions in Hay or Manure Use*."
- It is mandatory to follow the "*Use Precautions and Restrictions*" section of this label.
- Manure and urine from animals consuming grass or hay treated with this product may contain enough aminopyralid to cause injury to sensitive broadleaf plants.
- Hay can only be used on the farm or ranch where product is applied unless allowed by supplemental labeling.
- Consult with a Dow AgroSciences representative if you do not understand the "Use Precautions and Restrictions". Call [1-(800) 263-1196] Customer Information Group.

Forage and Manure Management



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Alternatives to Milestone and Forefront for Bedstraw Control

- Control seed formation
for a year by cutting early
- Improve fertility and soil
pH to encourage aggressive
grass growth
- Crossbow herbicide
applied in late summer or
early fall is very effective if
combined with the above
practices.