RUTGERS COOPERATIVE EXTENSION AT THE NEW JERSEY AGRICULTURAL EXPERIMENT STATION

PLANT & PEST ADVISORY

FIELD AND FORAGE CROPS EDITION $1.50 SEPTEMBER 20, 2001

INSIDE

IPM Report

Donna Foulk, Warren County Program Associate, IPM

• Many crop consultants and farmers reported yellowing of soybean fields following glyphosate applications. According to University of Delaware Weed Specialist, Mark VanGessel, the problem was more pronounced and widespread this year. Round-up Ultra Max especially caused yellowing of the growing points of the plants. Yellowing intensified in areas of pesticide overlap and in turn rows. Soybeans should outgrow the yellowing with no significant reduction in yield.

• When deciding when to make the last cutting of alfalfa, remember that legumes need six to eight weeks of rest and re-growth before a killing frost. Alfalfa needs to accumulate energy reserves to help survive winter and regrow in spring.

• Several farmers have reported significant concentrations of **nightshade** in soybean fields. If weeds are a problem in soybeans, Gramoxone may be used for drying weeds before harvest. According to Penn State Weed Specialist, Bill Curran, Gramoxone will not kill nightshade, but will hasten berry drop. For intermediate varieties, plants must be mature (65% of seed pods must be brown in color or seed moisture is less than 30%).

• Farmers should be aware of a new crop pest that is making headlines in the Midwest and has worked its way into soybean fields in areas of Pennsylvania. The **soybean aphid** has been found in high concentrations (500-1,000 aphids per plant) in parts of Iowa. Soybean aphids, which feed on plant nutrients, are a fairly new pest and no economic thresholds currently exist. Aphids are widespread in soybean fields in northwest Pennsylvania, where they have created unsightly field conditions due to the black soot-like honeydew on the leaves. They also have been reported in fields in south central Pennsylvania. Fortunately, many of the fields have large populations of ladybugs and other beneficial insects, which are voracious feeders on aphids.

• **Winter annual weeds** are a problem in many area alfalfa fields. Winter annual weeds germinate in late summer, remain

SEE IPM ON PAGE 2

IPM FROM PAGE 1

present in winter, flower and produce seeds in spring and die out in summer. Because of their life cycle, winter annuals can escape the action of pesticides in late-planted no till corn. When the fields are rotated to alfalfa, the winter annuals can invade the crop and reduce the quality of the first cutting. Scout alfalfa fields in early fall to determine which winter annual weeds are present. Match any herbicide used to the weeds present. Remember to be sure that the alfalfa is truly dormant before making a dormant pesticide application. Warm, sunny days in November may cause alfalfa to break dormancy.

• Soil test now if you plan to plant winter wheat and barley, and fertilize according to the test results. The pH for wheat should be between 6.0 and 6.5, whereas barley requires a pH of 6.5 to 7.0. Winter survival and final yields depend on maintaining a good soil pH and optimum phosphorous and potassium levels. Only a small amount of nitrogen is needed in the fall (15 to 20 lbs. per acre). The rest of the nitrogen can be applied in very early spring to promote tillering.

• Good weed control is critical before establishing grass hayfields or pastures. There are no products to use pre-plant incorporated or pre-plant emergence that will provide residual control without injuring the grasses. If the field intended for planting has a large concentration of perennial weeds or a history of poor **annual weed** control, it may be wise to delay planting to forages. Planting the field to corn or soybeans provides many weed control options that can clean up the field prior to planting. Fall seedings are generally more successful than spring seedings. Grasses planted in fall have a greater chance to out-compete spring and summer weeds than spring seeded grasses. Dry periods experienced in spring may allow weeds to gain a stronghold in new spring seedings. Slow summer growth of cool season grasses also allows ample opportunity for weeds to flourish. Ally, Banvel, Crossbow and 2,4-D can be used to control weeds in forages, but grasses must be firmly established to avoid injury. These products will also kill **clover** and **alfalfa**, if present in the stand. ❑

Tuber Oatgrass Reporting

Albert Ayeni, Ph.D., Research Associate, Weed Science

Tuber oatgrass is a perennial grass weed widely distributed throughout the Pacific Northwest. It resembles quackgrass in morphology but in some environments may grow to about six feet tall. It occurs on roadsides, in wastelands, and in cultivated fields. The bulbs are easily spread during tillage operations. There is limited information on control measures. Pete Probasco (Ag Agent, Salem County), brought a sample to our office at Rutgers Agricultural Research and Extension Center recently. He said the weed was found around the base of some ornamental plants growing out of some mulch materials that probably came from western United States. We are interested in knowing more about the distribution of tuber oatgrass in New Jersey and encourage you to report any sighting of this weed in your locality. You may call Albert Ayeni or Bradley Majek at 856-455-3100 or e-mail ayeni@aesop.rutgers.edu or majek@aesop.rutgers.edu.

Tuber oatgrass (Arrhenatherum elatius (L.) Presl var. bulbosum (Willd.) Spenner
[Source: Weeds of the West, Tom D. Whitson (Ed.) et al. 1991]

Conversion Factors for Soil Test Laboratory Reports

Joseph R. Heckman, Ph.D., Soil Fertility, and Jean Riling, Research Assistant

Soil test laboratories use several different units of measurement and chemical expressions for nutrients when reporting the results of a soil test. Depending on which lab you use, it may report the levels of nutrients in either pounds per acre (lbs/acre) or in parts per million (ppm). In addition, nutrients such as phosphorus, potassium, magnesium, and calcium may be reported either as elements (P, K, Mg, Ca) or in the form of oxides (P_2O_5, K_2O, MgO, CaO). When comparing the test results from several laboratories or consulting tables of nutrient sufficiency (such as Rutgers Cooperative Extension Factsheet FS719, Soil Fertility Test Interpretation - Phosphorus, Potassium, Magnesium, and Calcium), conversion factors (Table 1) are helpful for converting between the various methods of reporting.

For example, 25 ppm phosphorus (P) is equal to 50 pounds P per acre [25 ppm P x 0.5 = 50 lbs/acre P], which is also equivalent to 114.5 pounds P_2O_5 per acre [50 lbs/acre P x 2.29 = 114.5 lbs/acre P_2O_5].

Note, however, that soil test levels expressed as pounds per acre should be interpreted only as an index of nutrient availability and not literally as being equivalent to actual pounds of available nutrients per acre. In addition, while it is possible to convert between the different units of measurement and chemical expressions used by testing labs, it would be incorrect to draw comparisons between the different soil tests, such at the Mehlich-I and the Mehlich-III tests, as each uses different chemicals and procedures to extract nutrients. The results from different labs are comparable only when they are using the same soil test method.

Table 1. Conversion table. Multiply the initial form by the multiplication factor to obtain the final form.

Initial Form	x Multiplication Factor	= Final Form
Units of Measurement[1]		
lbs/acre	0.5	ppm
ppm	2.0	lbs/acre
Nutrients		
P_2O_5	0.44	P
K_2O	0.83	K
MgO	0.60	Mg
CaO	0.71	Ca
P	2.29	P_2O_5
K	1.20	K_2O
Mg	1.67	MgO
Ca	1.40	CaO

[1] When depth of soil sample = 6 inches

Reference.

Heckman, J.R. 1998. Soil Fertility Test Interpretation - Phosphorus, Potassium, Magnesium, and Calcium. Rutgers Cooperative Extension. FS719. ❑

National Farm Safety and Health Week

The 58th annual observance of National Farm Safety and Health Week and is during September 16-22, 2001. The theme this year is "Kids #1 in 2001". The theme is chosen annually by the National Safety Council's Agricultural Division.

Agricultural safety and health materials for National Farm Safety and Health Week (NFSHW) can be found on the National Safety Council's (NSC) website at www.nsc.org/farmsafe.htm. New materials are being added each week. The NFSHW web page will eventually become part of a larger NSC Agricultural issue area part of the NSC website. ❑

The 58th annual observance of National Farm Safety and Health Week and is during September 16-22, 2001.

Weekly Weather Summary

Keith Arnesen, Ph.D., Agricultural Meteorologist

Temperatures averaged slightly below normal. Extremes were 88 degrees at several locations on the 11th and 14th and 35 degrees at Pemberton on the 16th. Weekly rainfall averaged 1.39 inches north, 1.11 inches central, and 0.27 inches south. The heaviest 24 hour total reported was 1.58 inches at Canoe Brook on the 13th to 14th. Estimated soil moisture, in percent of field capacity, this past week averaged 84 percent north, 73 percent central and 39 percent south. Four inch soil temperatures averaged 65 degrees north, 67 degrees central and 68 degrees south.

Weather Summary for the Week Ending 8 am Monday 9/17/01

	RAINFALL			TEMPERATURE				GDD BASE50		MON
WEATHER STATIONS	WEEK	TOTAL	DEP	MX	MN	AVG	DEP	TOT	DEP	%FC
BELVIDERE BRIDGE	1.10	24.47	-2.23	88	41	63.	0	2720	252	94
CANOE BROOK	2.53	25.87	-2.16	87	43	66.	2	2915	438	96
CHARLOTTEBURG	1.30	22.44	-5.87	84	39	61.	0	2377	410	79
FLEMINGTON	1.55	33.07	6.23	86	41	63.	-1	2632	93	98
LONG VALLEY	.81	23.91	-5.12	78	40	59.	-2	2207	27	81
NEWTON	1.05	21.27	-4.82	85	39	61.	0	2587	366	80
FREEHOLD	1.20	23.32	-2.78	87	43	64.	-1	3071	380	82
LONG BRANCH	1.26	25.85	-.59	83	45	64.	-2	2810	176	79
NEW BRUNSWICK	2.14	27.55	1.06	87	43	64.	-2	2902	74	98
PEMBERTON	.63	22.00	-4.78	88	35	62.	-4	3131	369	69
TOMS RIVER	.49	25.35	-1.67	86	43	64.	-2	2915	276	70
TRENTON	.94	26.10	1.02	86	44	64.	-3	3015	81	72
CAPE MAY COURT HOUSE	.31	21.19	-2.23	86	47	66.	-3	3104	450	29
DOWNSTOWN	.53	18.83	-5.79	86	40	64.	-3	2995	50	64
GLASSBORO	.35	21.07	-4.75	88	45	67.	0	3296	382	46
HAMMONTON	.33	17.27	-8.53	88	41	65.	-2	3111	188	38
POMONA	.20	16.29	-7.24	87	44	65.	0	3001	274	37
SEABROOK	.15	24.47	.81	85	53	71.	3	3256	293	38
ATLANTIC CITY MARINA	.00	15.86	-6.74	86	48	67.	-1	3093	403	19
SOUTH HARRISON	.48	23.00	-2.34	84	47	67	NA	3150	NA	NA

*Some values for Flemington were estimated for the period April-May

WES KLINE — GDD BASE 40 PINEY HOLLOW

Last Week 200 (Ending 9/10/01)

This Week 170 (Ending 9/17/01)

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FIELD AND FORAGE CROPS EDITION

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Pesticide User Responsibility: Use pesticides safely and follow instructions on labels. The pesticide user is reponsible for proper use, storage and disposal, residues on crops, and damage caused by drift. For specific labels, special local-needs label 24(c) registration, or section 18 exemption, contact RCE in your County.

Use of Trade Names: No discrimination or endorsement is intended in the use of trade names in this publication. In some instances a compound may be sold under different trade names and may vary as to label clearances.

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