

## AG PROFIT

March-April 2009

### It's time to Grow!

Dear Friends,

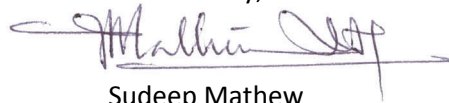
Spring is upon us! I always think spring is one of the most uplifting times of the seasons. It brings life to the world by nature. It's a great time as we start to prepare for the season. I am excited about the opportunities this season brings us to create endless bounty to sustain life.

I want you to be a part of this planting season in a couple of practical ways. It is always good to make a plan of work before you start. It will help us sort things and keep us focused to achieve efficiency. Although weather has a major influence on agriculture production, targeting an optimum time to finish planting is a goal most producers should strive to achieve. Keeping record of what you planted, when you planted, conditions at the time of planting will help you understand what worked or failed and it will help you to do better in the future. If you were to make a pre-emergent herbicide application, always read the label and calibrate the equipment. Make sure your equipment is in good condition to avoid waste and reduce cost.

With the current situation of economic distress in our society and many families, it might be easy to lose your focus. But I would like you to concentrate on something else. Think of being an agriculturist/grower, being able to be outside, to see that wheat leaf sheaths grow above 6 inches of growth, the canopy cover the field, blanketing the ground and emerging upon the skies. Yes! We feed the world. Serve the land. What a joy!

Let these spirits enlighten our hearts and minds to have a wonderful season ahead.

Sincerely,



Sudeep Mathew  
Extension Educator - Agricultural Science

Educating People To Help Themselves

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## Are Tillage Practices Influencing Soil Carbon Storage?

The practice of no-till has increased considerably during the past 20 years. Soils under no-till usually host a more abundant and diverse biota and are less prone to erosion, water loss, and structural breakdown than tilled soils. Their organic matter content is also often increased and consequently, no-till is proposed as a measure to mitigate the increase in atmospheric carbon dioxide concentration. However, recent studies show that the effect of no-till on carbon sequestration can be variable depending on soil and climatic conditions, and nutrient management practices.

Researchers at Agriculture and Agri-Food Canada (Québec City) investigated the impacts of tillage (no-till vs. moldboard plowing) and nitrogen and phosphorus fertilization on carbon storage in a clay loam soil under cool and humid conditions in eastern Canada. Corn and soybeans had been grown in a yearly rotation for 14 years. The results of the study were reported in the 2009 January-February issue of the *Soil Science Society of America Journal*.

The authors concluded that their investigation indicates "... no-till enhanced soil organic carbon (SOC) content in the soil surface layer, but moldboard plowing resulted in greater SOC content near the bottom of the plow layer. When the entire soil profile (0-24 inch) was considered, both effects compensated each other which resulted in statistically equivalent SOC stocks for both tillage practices."

The effects of tillage and nitrogen fertilization varied depending on the soil depth considered. When considering only the top 8 inch of soil, the lowest carbon stocks were measured in the plowed soil with the highest nitrogen fertilizer level, whereas the highest SOC stocks were observed in the no-till treatment with the highest nitrogen rate. The authors hypothesized that while nitrogen fertilization favored a greater residue accumulation in the top 8 inch of no-till soils, mixing of crop residue with soil particles and nitrogen fertilizer by tillage stimulated the mineralization of residue and native soil carbon. However, when accounting for the whole soil profile, these variations in the surface 8 inch of soil were counterbalanced by significant SOC accumulation in the 8- to 12-inch soil layer of tilled soils, resulting in statistically equivalent SOC stocks for all tillage and nitrogen treatments. This study further emphasizes the importance of taking into account the whole soil profile when determining management effects

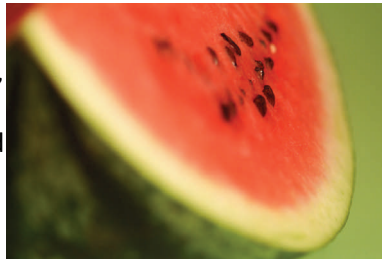


on SOC storage, especially when full-inversion tillage is involved. The authors conclude that "only considering the top 8 inch of soil would have led us to an erroneous evaluation of the interactive effects of tillage and nitrogen fertilization on SOC stock".

Field studies of the impact of tillage and fertilization on carbon storage have yielded contrasting results in various parts of the world. An explanation of the high intersite variability of the influence of no-till on soil carbon storage will require that we understand the impacts of no-till and fertilizer management on SOC sequestration for various soil and climatic conditions. Further, researchers at Agriculture and Agri-Food Canada are pursuing their investigations to understand the factors that control the accumulation of soil carbon at depth under moldboard plowing. Specifically, they now focus their efforts on the role of clay particles and soil aggregation in stabilizing carbon. The full article is available for no charge for a limited period electronically at <http://soil.scijournals.org/cgi/content/abstract/73/1/255>.

## Seeded watermelon and weed response to Halosulfuron (Sandea®)

Field experiments on efficacy and crop tolerance were conducted to determine the potential for halosulfuron use in watermelon in Georgia and North Carolina. Halosulfuron was applied PRE, early POST (EPOST; one-leaf watermelon), and late POST (LPOST; watermelon with 30-cm runners) at 26, 39, and 52 g ai/ha. Under weed-free conditions, PRE treatments did not injure watermelon. EPOST and LPOST treatments caused 45 and 34% injury 2 wk after treatment, respectively, averaged over halosulfuron rate. EPOST treatments reduced watermelon fruit number and total weight by 15 and 22%, respectively, and LPOST treatments reduced total fruit weight 12%. Halosulfuron PRE at 39 or 52 g/ha provided 94% or greater control of carpetweed, Palmer amaranth,



and smooth pigweed. EPOST treatments controlled 84 and 88% of yellow nutsedge and smooth pigweed, respectively, but LPOST treatments controlled less than 83% of all weed species. Sequential applications of halosulfuron at 26 g/ha PRE and 26 g/ha LPOST controlled 89 to 99% of carpetweed, coffee senna, palmer amaranth, smooth pigweed, and yellow nutsedge. Study data suggest growers can effectively use halosulfuron PRE in seeded watermelon. However, POST applications should be made only after watermelon has 30-cm runners and as a salvage spot treatment where previous weed control strategies have failed to provide adequate control. Full article can be found at Weed Technology Journal 22(1):86-90. 2008.

## Which are the most profitable Cropping Systems?

*Results show that diversified systems are more profitable than monocropping.*

Which is a better strategy, specializing in one crop or diversified cropping? Is conventional cropping more profitable than organic farming? Is it less risky?

To answer these questions, the University of Wisconsin's College of Agriculture and Life Sciences and Michael Fields Agricultural Institute agronomists established the Wisconsin Integrated Cropping Systems Trial (WICST) in 1990. This research is funded by USDA-ARS.

Systems ranging from species-diverse pasture and organic systems to more specialized conventional alfalfa-based forage and corn-based grain systems were compared at two sites in southern Wisconsin from 1993 to 2006.

Crop production analysis was published in the 2008 March–April issue of *Agronomy Journal* while this companion article focuses on the net returns and associated risk exposure of these systems. Full research results from this current study are presented by Chavas et al. in the 2009 March–April issue of *Agronomy Journal*.



"In our study we found that diversified systems were more profitable than monocropping," explains Joshua Posner, University of Wisconsin.

With feed grade premiums the organic systems were more profitable than the Midwestern standards of continuous corn, no-till corn and soybeans, and intensively managed alfalfa.

Rotational grazing of dairy heifers was as profitable as the organic systems. And to our surprise, including risk premiums into the evaluation did not change the ranking of the systems. This study indicates that governmental policy that supports mono-culture systems is outdated and support should be shifted to programs that promote crop rotations and organic farming practices. The full article is available for no charge for a limited period electronically at <http://agron.scijournals.org/cgi/content/abstract/101/2/288>.

## Nitrogen Top-dressing in Winter Wheat

Efficient nitrogen (N) fertilization is crucial for economic winter wheat production and protection of ground and surface waters. Nitrogen fertilizer rates and timing of application are two major tools available to farmers, after

planting, to manipulate wheat to produce higher yields per acre. Wheat utilizes very little N during winter dormancy. Applying large amounts of N during the winter on frozen ground and expecting this N to be available for

## Nitrogen Top-dressing in Winter Wheat (cont.)

producing grain in May and June is not reasonable. Climatic conditions in late winter and early spring are highly variable suggesting that a split application of topdressed N may be much more economic and beneficial. The wheat crop N requirement increases as active growth begins in late winter and early spring. Late winter/early spring growth is characterized by further tillering prior to stem elongation. Since initial growth is usually rather slow because of cool temperatures, the initial spring N application should be as near to the initiation of growth as possible in order to avoid runoff or other N losses. Split spring N applications often produce higher yields than can be produced with any rate or timing in a single application. Split spring N applications are recommended whenever possible. If a farmer can split on only a part of their acreage, then the sandier soils will benefit more because of their higher leaching potential. The first step in spring N management is to determine whether there are adequate numbers of tillers in the field. Count all tillers with three or more leaves and calculate tiller density per square foot.

Repeat this count in five other locations and calculate the average. Calculate the tillers per square foot (tiller density) by the following formula, tiller density = (average tiller count x 4) divided by the row width in inches. For split N situations, fields with low tiller density (50) should be fertilized before fields with high tiller densities. Fields with high tiller counts (100+) no initial fertilizer



Photo courtesy of University of Wisconsin Extension

application has to be made. The second spring N application should be made at, or just after, Feekes' growth stage 4-5. Article by Ned Birkey, Michigan State University Extension.

## Industry News

### Certis USA to distribute biological nematicide for specialty crop growers

The biopesticide company Certis USA has been granted the marketing and distribution rights to sell MeloCon® bionematicide in the United States by its manufacturer Prophyta GmbH, Germany. MeloCon contains spores of the naturally occurring fungus *Paecilomyces lilacinus* and controls several species of nematodes in vegetable, fruit and tuber crops where currently available nematicide options are being restricted or phased out. MeloCon became available in retail market starting January 2009. Several states' registration is pending.

Prophyta is a pioneer in the development of biological control organisms that are used worldwide in both conventional and organic farming. The company discovered that the PL 251 strain of the *Paecilomyces* species (MeloCon) is strongly parasitic to all stages of development of common plant-infecting nematodes, in particular the eggs. It is especially effective in controlling cyst, lance, citrus, reniform and root-knot nematodes. It is estimated that the root-knot species, alone, is responsible for 5 percent of all crop losses worldwide.

## USDA Farm Service Agency Program Updates

### DCP/ACRE Deadline Extended

On March 31<sup>st</sup>, 2009 the USDA announced that it has extended the Direct and Countercyclical Program (DCP) and the forthcoming Average Revenue Election (ACRE) Program sign-up from June 1, to **August 14, 2009**. This extended sign-up deadline by 10 weeks will give producers ample time to decide whether to participate in ACRE or remain in DCP.

### Disaster Buy-In Waiver Extension

Producers who did not obtain crop insurance or Non-insured Crop Disaster Assistance Program (NAP) coverage for 2008 can pay a buy-in fee through **May 18, 2009** to become eligible for 2008 disaster assistance programs authorized by the Food, Conservation, and Energy Act of 2008 (Farm Bill).

### Acreage Reporting

Acreage reports are required for many Farm Service Agency programs. For crops other than NAP (Noninsured Crop Disaster Assistance Program) crops, acreage reports are to be certified by **June 1<sup>st</sup>** deadline for small grains and **July 15<sup>th</sup>** deadline on all other crops.

## USDA Farm Service Agency Program Updates (Cont.)

### NAP Production Reporting

Production records for individual crops need to be filed with FSA office to establish an approved NAP yield. All production records must be submitted by the subsequent crop year's final acreage reporting date.

### Farm Reconstitutions

When changes in ownership or operation take place, a farm reconstitution is necessary. If payments have already been issued on a particular farm, the reconstitution will be effective for the next year, unless the payments are refunded. Request for reconstitutions should be filed by **June 1<sup>st</sup>**.

### New CRP/CREP Contract

Deadline to sign new CRP/CREP contract is **June 1, 2009** for any CRP/CREP contracts expiring on 09/30/08.

For more information contact Dorchester County FSA at 410-228-5640 Ext. 2

### Dorchester Extension AGNR Survey

In the January - February newsletter I had included a survey to gather information from stake holders to help streamline the extension program to serve you better. Thanks to all who participated and responded. However, to get a collective response I have created the survey online for those who couldn't respond earlier in paper version. Below is the link.

[http://www.surveymonkey.com/s.aspx?sm=iAWM8cH2kUhpwSaV\\_2fkseug\\_3d\\_3d](http://www.surveymonkey.com/s.aspx?sm=iAWM8cH2kUhpwSaV_2fkseug_3d_3d)

I encourage you to complete the survey. Your feedback and input is important to us. I appreciate your effort. Please let me know if you would like to participate in any alternate method.

### Glyphosate Resistant Marestalk Research: Cooperators Needed

Do you have glyphosate resistant marestalk (Horseweed) in your field? We are looking for natural populations of resistant marestalk to conduct a research study in no-till soybeans. If you are interested or know anyone who will make a good cooperator, contact the Dorchester County Extension Office at 410-228-8800. Be a Champion! Let's manage Weeds!

### Maryland Grain Producers Utilization Board Scholarship

Maryland Grain Producers Association will be awarding deserving students with scholarships in the amount of \$2500 each (\$1250 for each semester) enrolled in a Maryland or an out of state institution. The purpose of this scholarship is to provide financial support to students interested in pursuing agriculture related career. If you have any questions, call 410-956-5771. Please note the deadline of the application is **June 1<sup>st</sup>**. For more information and application form can be found at [www.marylandgrain.com](http://www.marylandgrain.com)

### Ag Discovery Scholarship 2009: Now Accepting Application

Ag Discovery is an outreach program to help teenagers learn about careers in plant and animal science and wildlife management. The University of Maryland is hosting 2009 Ag Discovery participants on its campus in College Park, Maryland July 12-24, 2009. Applications are due **April 17, 2009**. To learn more and apply contact Ms. Terry Henson at 301-734-6312 or [terry.a.henson@aphis.usda.gov](mailto:terry.a.henson@aphis.usda.gov)

### Small Flock Advanced Short Course

Maryland Cooperative Extension will conduct a short course on poultry health, management, housing and safety. Several hands on demonstration including an Avian Bowl Practice to be held on **May 2, 2009** at Avrum Gudelsky Veterinary Center, College Park, MD from 9:00 am to 3:00 pm. This advanced course is free, but seating is limited, so call Jessica Renshaw 410-742-1178 to register.

### Dorchester County Master Gardener Program

The Maryland Cooperative Extension is pleased to announce a new local initiative. Starting **Thursday, May 21, 2009**, interested gardeners and would be gardeners will begin an extensive Master Gardener training program to become certified Maryland Master Gardeners in Dorchester County. The fee of \$250 includes the 600 plus page Maryland Master Gardener Handbook, and covers all costs of handouts and professional instruction. Participants will receive 40-50 hours of basic training from University of Maryland professionals. Graduates of this program will be required to work 40 volunteer hours during the first year of certification and 20 hours every year thereafter. For more information, contact 410-228-8800.