CCTA Members,

After reading the first draft of this period’s CCTA Journal I was hit with the realization that all of the things that I’d been compelled to mention were much more completely covered by the informative articles you will encounter as you proceed. There was, however, one issue that I felt I should personally address. That was the decision to cap our attendance.

Although not on the board in the early days of CCTA, I was, by virtue of knowing many of the board, very keenly aware of the many issues that nearly brought this organization to an end. Of course money was at the top of the list, but that was a function of attendance. For many of the farmers really seeking the information that CCTA was presenting, it was a true journey to get there. Weather concerns and personal costs, I feel, kept many away from regular participation.

Our move to central Colorado seems to have struck a positive vibe with the agriculture producers. Coming from our humble beginnings it was an instinctive reaction to just keep growing and enjoying the participation. That was until we started seeing the very full rooms. It became obvious that we were running the risk of degrading the learning experience for the sake of attendance numbers. This, we felt, was counterproductive to CCTA’s purpose.

Although a hard decision to make I feel comfortable that it was correct. There is no easy solution to this problem and as CCTA continues to invite prominent speakers to educate you it may only become more intense. Be assured that your board is very aware of this issue and will work diligently to relieve that pressure. As always, your comments are appreciated. In the meantime, the advice I’m giving you is to register early to secure a spot.

Take care, enjoy the rest of the Journal and we’ll see you in February.

Curt Sayles,
CCTA President

CCTA Board of Directors
Officers
Curt Sayles, President, Seibert, Colorado
cursay@plainstel.com
970-664-2281

John Fabian, Vice President, Windsor, Colorado
john.fabian@fontanelle.com
970-373-7429

Scott Smith, Treasurer, Cheyenne Wells, Colorado
scott.smith@co.usda.gov
719-342-2902

Miranda Sims, Secretary, Otis, Colorado
Miranda.sims@centag.com
970-630-7675

CCTA Board Members
Kyle Franz, Burlington, Colorado
kyle.francz@co.usda.gov
719-349-8067

Wade Hollowell, Hugo, Colorado
wadefb40@hotmail.com
719-740-2773

Jeff Kler, Sterling, Colorado
jeff@humalfa.com
970-580-8606

Mike Kochis, Matheson, Colorado
mkochis.topqualityag@yahoo.com
719-740-8867

Barry Maranville, Matheson, Colorado
barrymaranville@yahoo.com
719-393-5614

Curt Sayles,
CCTA President

CCTA, is a non-profit organization serving all the States in the High Plains Region. It is a resource of experienced farmers working with industry, University and agricultural agency personnel whose goal is to spread research and on-farm gained information about conservation farming practices.

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Summer Field Workshops

The Colorado Conservation Tillage Association partnered with No-Till on the Plains to host the first ever joint summer field days. The field days were held in Colorado and Nebraska and offered the almost 100 attendees a chance to learn how their farming practices effect soil health and how that impacts their profits. Odette Menard, Canadian soil scientist conducted soil health education in the fields. Standing in the soil pits she showed producers what they should look for in their soil to assess its health. Planting equipment is a key piece of equipment in farming. Paul Jasa, Agriculture Engineer from University of Nebraska, Lincoln had drills and planters on site to talk about industry innovations and after market additions farmers can use to improve their farms. Bruce Bosley, CSU Extension specialist addressed pest and disease management.

“As our first summer field day, I think it went very well,” CCTA President Curt Sayles said standing in a field of sunflowers. “We get plenty of no-till education opportunities in the winter, but to be in the field and see with your own eyes what they are talking about makes it more profound.”

Some attendees traveled over four hours to attend the events, reinforcing the need for summer educational events. Feedback from attendees was overwhelmingly positive with over 95% saying they were likely to attend other field workshops. “As we do more of these events, we will get better at them. Working with No-Till On The Plains was great. Tim and Jim brought experience to the table and they worked well with our coordinator. We hope to continue this partnership to provide for other educational events in the future,” Sayles said.

CCTA and NTOP would like to thank the following sponsors for helping us provide the summer field workshops:

DuPont, Emergent Green Energy, Green Cover Seeds, Humalfa, NRCS of Colorado and Nebraska, Pro-Till, Rocky Mountain Farmers Union, Arrow Seed Co. Inc., BASF, Farm Credit Services of America, Koch Agronomic Services, Meridian Seeds, Olsen’s Agriculture Laboratory, Simpson Farm Enterprises, Aurora Coop, Rubisco Seeds and Sono Ag.
Most farmers in the Great Plains agree that water is the primary limiting factor controlling dryland production. Yet only a small portion of the precipitation received is stored during fallow, and soil evaporation far exceeds other losses by weeds, volunteer plants, runoff, deep seepage, and snow blowoff. In a classic USDA Conservation Research Report, Haas et al. (1974) state, “It seems paradoxical that water should be proclaimed the primary factor limiting crop production in the northern Great Plains, when more than 1 year’s precipitation is lost during the fallow period for spring wheat.” For no-till winter wheat-fallow in the west-central Great Plains, Farahani et al. (1998) found that on average, only 29% of the precipitation received during the fallow was stored in the soil profile. For the region, average (1948-1995) precipitation for the 14-month fallow is 552 mm, resulting in 442 mm of lost precipitation. That is indeed more than an average year’s precipitation of 410 mm.

Mathews and Army (1960) summarized soil-water and precipitation data for 25 stations representing over 450 wheat-fallow years on well-managed fallow lands in the Great Plains. The average soil-water storage during the fallow (for both winter and spring wheat-fallow systems) was 100 mm or 16% of the precipitation (617 mm), corresponding to a 84% loss of precipitation. They attributed this loss to evaporation from the soil, since runoff and deep percolation losses were known to be very low. Although significant progress in fallow tillage and management has been made since then, investigators still report unacceptably low fallow water storage efficiencies, even under modern conservation practices of reduced- and no-till (Unger, 1984; Stewart and Steiner, 1990; Norwood, 1994; Jones and Popham, 1997; McGee et al., 1997).

In a recent review, Peterson et al. (1996) examined the effects of tillage and residue management on fallow soil-water storage from Canada to Texas. Water storage efficiencies using no-till summer fallow in the Great Plains were reported as 10% in Texas, 22% in eastern Colorado, and

It appears that if no plants are present to use the soil-water reservoir during the red zone fallow, (late fallow period of May – September) the atmosphere will consume it through evaporation.
New Registration Process for High Plains No-Till Conference

For the 2014 High Plains No-Till Conference, CCTA is implementing a new on-line registration process. We are working with Map-Dynamics to combine all the registrations into one easy to use format that is integrated into our new web site. Map Dynamics allows us to show you who is registered as vendors and what booth space they are assigned.

We will continue to accept paper registrations for those of you who prefer that method. If you have questions during the registration process, please contact Becky Ravenkamp at becky@highplainsnotill.com or by calling 719-740-0715.

Sponsor, Vendor and Attendee Registration now open at www.HighPlainsNoTill.com

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25-30% in western Kansas for the 14-month winter wheat-fallow system; and from 18 to 37% in the northern plains for the 21-month fallow of spring wheat. From their summary, an average efficiency of 25% was found for water storage during fallow (both winter and spring wheat) in the Great Plains. Comparing this with their earlier findings of Mathews and Army (1960), one may conclude that from the dust mulch days of the early 1900s to the present era, fallow efficiency has only improved from 16% storage to 25% storage with no-till fallow. A huge loss, 75% of the fallow precipitation, still remains a reality. Even with our best soil and water conservation practices.

Summer rainfall prevails in the Great Plains, with nearly 75% of the annual precipitation occurring from April to September. Ironically, precipitation storage efficiency during fallow is lowest, even negative at times, during the summer periods when precipitation is greatest. Paradoxically, fallow is not only inefficient but most inefficient during the periods when precipitation is most substantial (i.e. summer). There appears to be little possibility of further reducing evaporation by use of surface residue, particularly since residue production in Great Plains dryland agriculture is limited for efficient water storage (Peterson et al., 1996). Existing soil and water conservation practices, very important to erosion and soil productivity, are at or near their practical limits. A different approach to water conservation and efficient use of precipitation is obviously needed.

To simplify discussion of results, we assigned colors (zones) to each fallow period based on the intensity-of-evaporation rates during the period – the orange zone refers to the early period (July – mid –September), the blue zone to the overwinter period (fall to early May) and the red zone to the late period (from spring to wheat planting in Mid September). On average, 111 mm (or 89%) of the total 125-mm fallow storage occurred during the blue zone. During the red zone, no water is conserved in this no-till fallow. Red zone fallow (i.e. the primary zone of inefficiency in the wheat-fallow system) is precisely the period that is replaced by corn or sorghum in the more intense 3-year W-C-F system. It appears that if no plants are present to use the soil-water reservoir during the red zone fallow, the atmosphere will consume it through evaporation. The red zone or the summer of fallow can be eliminated only by abandoning winter wheat. That solution is unrealistic, since winter wheat is the cornerstone of dryland agriculture in the Great Plains. Thus, the only plausible and practical solution to the unavoidable red zone fallow is to reduce its frequency of occurrence by intensification or summer cropping. Inclusion of one summer crop in the WF system reduces the frequency of occurrence of the red zone fallow by 33% - from one in every two years to one in every 3 years.

Research before the 1980s focused on improving the fallow practices, although Haas et al. (1974) and others questioned the wisdom of fallowing. Perspectives on fallowing began to change in the 1980s, and the underlying objective has been broadened to enhancing the efficient use of precipitation rather than just

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**Attention all CCTA members** - the board of directors will be filling one vacancy due to term limits at the annual conference in February. Directors are elected to 2-year terms with a three year term limit. If you or someone you know is interested pleases contact one of the current directors for more information.
improving summer fallow efficiency. Particularly since research on the winter wheat-fallow system shows that in the Great Plains the amount of soil water accumulated by the late spring of the lengthy fallow preceding wheat is not significantly different from soil water accumulated 5 months later at wheat planting. This is in spite of the fact that nearly 65% of annual precipitation occurs during this latter 5-month period; meaning that on average most precipitation received during the last summer of fallow is lost unless a summer crop is planted.

Cropping diversification is an integral part of intensification. For instance, annual cropping of winter wheat is cropping intensification as compared with alternating wheat with fallow, but the former may or may not be a feasible alternative. Furthermore, in moving from the 2-year WF to 3- and 4-year rotations, cropping intensity per year increases from 0.5 to 0.67 and 0.75, respectively. However, neither the annualized noncrop (fallow) duration (0.6 WF, 0.61 WCF, and 0.65 WCMF) changes (actually it increases slightly) nor the time-in-crop per unit time increases with cropping intensification. Intensification does decrease with summer fallow intensity per year from 0.5 in WF to 0.33 in WCF (WSF) and 0.25 in WCMF (WSSF).

A different approach to water conservation and efficient use of precipitation is obviously needed. A new era of dryland farming, characterized by cropping intensification and diversification, is emerging on the Great Plains and may someday dominate as summer fallow has in the past. Perhaps an even more stimulating thought is the hypothesis by Peterson and Westfall (1997) the “zero-tilling, coupled with intensified crop rotations, is a movement toward an agroecosystem that mimics the Great Plains prairie ecosystem before cultivation began.”

WF = winter wheat-fallow; WCF = winter wheat-corn-fallow; WSF = winter wheat-sorghum-fallow; WCMF = winter wheat-corn-millet-fallow; WSSF = winter wheat-sorghum-sorghum-fallow.
The Colorado Conservation Tillage Association announced that it will cap registration for the 2014 High Plains No-Till Conference at 550 attendees. “We have such a strong line-up of speakers that we anticipate the need to limit registration to this year’s conference. Last year our attendance didn’t quite reach 550 but we expect to be very close this year,” CCTA President Curt Sayles said. “We have several of the top no-till speakers. Our list includes speakers that are presenting at this year’s national no-till conference and others who have done so in the past. Our keynote speakers have graced the covers of farm magazines and most of our breakout speakers have either been cover stories or have been featured in many of those same publications.”

“It is a challenge to bring quality speakers to the conference that can address the educational needs of our entire membership. Our membership covers the range of dryland and irrigated farms, transitional to long time no-tillers, those who strip-till, those who zero-till and everything in between. We also have a varying degree of precision technology application. I think the board has done a great job finding speakers who can cover the range of topics,” John Fabian of ChannelBio and Vice President of CCTA stated.

CCTA has brought information on emerging issues like wheat stem sawfly evolution, companion cropping and new soil tests along with repeated no-till education needs like a sprayer farmer panel, and no-till nutrient management, innovations and progressions to this year’s conference. There will be more sessions presented than you could hope to cover in just two days. Speaker and session information will be posted online with conference registration at [www.HighPlainsNoTill.com](http://www.HighPlainsNoTill.com).

**Sponsors, Vendors and Members** Please update your mailing and / or email address so you can receive important updates and information on the High Plains No-Till Conference and other CCTA events! Email Becky@HighPlainsNoTill.com. You can also request an electronic edition of the CCTA Journal in color!

**CCTA Ag and Diesel Mechanic Scholarship Applications Available!** All Sophomores, Juniors and Seniors attending college in Colorado, Kansas, Nebraska and Wyoming who are majoring in agriculture (equine science excluded) are encouraged to apply for the ag scholarship. All Sterling diesel mechanic students are encouraged to apply for the diesel mechanic scholarship. Deadline is December 1st. Go to [www.HighPlainsNoTill.com](http://www.HighPlainsNoTill.com) for directions and to download the application.
2014 High Plains No-Till Conference
Feb 4-5, 2014
Burlington Colorado

Early Registration $110  Students $25 per day
Late Registrations (1-15-13) $160

The two-day admission includes two keynote addresses, all breakout sessions, lunch both days and presentation binder.

Crop Management Seminar Feb. 6, 2014

Dr. David Sassville and James Hoorman will be featured speakers at the 2014 Crop Management Seminar held in Burlington, CO on February 6, 2014.

Micronutrients will be the focus of Dr. Sassville’s session with a particular look at how often overlooked micronutrients impact production. As an international nutrient consultant and owner of Agri-Guardian, Dr. Sassville will share his knowledge with participants and take time to evaluate your soil test results!

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