

# #29 – “Strip Tilling Soybeans, Vertical Tillage and other crazy farm practices”

Larry Tombaugh

Larry and Kathy Tombaugh Experimental Farms

January 18, 2014



# I. Opening comments

## II. Nuggets

1. Soil is a living ecosystem.
2. Weed resistance.
3. Pests are diabetic.
4. Strip till is the missing link.
5. Vertical tillage.
6. All liquid fertilizer.



# III. Historical background







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Southwest upheld top 100 production award  
Analysis: Renewable technology...  
The Midwest's...  
The Midwest's...

**Blowing cool air**

By HOLLY BRANFLETT

**Key Points**

- Kate Tombaugh (left) in the center with her husband, Steve Tombaugh (right), and their son, Steve Tombaugh (center), in front of their home in Bloomington, Ill.
- Kate Tombaugh (left) in the center with her husband, Steve Tombaugh (right), and their son, Steve Tombaugh (center), in front of their home in Bloomington, Ill.
- Kate Tombaugh (left) in the center with her husband, Steve Tombaugh (right), and their son, Steve Tombaugh (center), in front of their home in Bloomington, Ill.

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in profile class of 2007

## Kate Tombaugh shares highlights from her unexpected career singing opera

**K**ate Tombaugh '07 has loved music all of her life. But even she didn't imagine that she would one day become an opera singer.

She was involved in opera as a School of Music student, "but even that took a bit of coaxing from my professors," Kate says. "Prior to college, singing was a very regular part of my life, but classical music was a much newer concept for me to grasp. I had always tried to view music's role in my life responsibly; I enjoyed it and wanted it to always be a great part of my life, but never imagined I could make a career in it."

But Kate has, in fact, made a promising career out of her vocal talents. Her burgeoning professional path has taken her around the country and the world, and she returned to Illinois Wesleyan in November to help guide music students who want to follow in her footsteps. Her visit included a guest recital and a speech during the School of Music Convocation.

Kate decided on a varied repertoire for her recital program, ranging from songs in Italian, French and German, including classics by Mozart and Brahms, to what she calls a "sassy newer English set" by living composer Gary Schocker, whom she met and performed with last year.

The most memorable part of her IWU visit was meeting student musicians. "I found them to have a great curiosity and a thirst for learning that is rampant at IWU and fostered in its classrooms." In turn, she provided direction to those looking to create a career in music. "I could give a reliable explanation about the auditioning process, applying for programs, looking into graduate schools, beginning professional jobs, all because I am in the midst of it right now," she says. "I warned the students to believe they have the power to begin farming their careers right now and I wanted to give them some tools to do just that."

Her advice? Be on time, network with others and audition relentlessly. "I tell people who are down with the constant auditioning not to lose hope," Kate says. "My audition with Utah Opera occurred 15th out of 16 auditions during a two-month period while constantly traveling while going to school fulltime while working several part-time jobs and with a fairly busy performance schedule."

Kate has had a fast-paced life since graduating from IWU four years ago. A few months after graduation — while holding down a variety of jobs in Bloomington, including teaching voice and waitressing — she auditioned for the Metropolitan Opera National Council and took first place in the competition's district level. She then advanced to a regional competition in Chicago, where she placed third. More importantly, while there she connected with the competition's head judge, who challenged her to think about a future career in vocal performance.

"That night after the competition was done I went home and started thinking, 'I just might actually be able to do this, and I stayed up all night applying for the graduate programs she had recommended,'" Kate recalls.

In the next year, Kate jumped headfirst into the world of opera. She took her first professional job with the Opera Theatre of St. Louis, where she was a Caroline Young Artist, traveled to Graz, Austria, to participate in the American Institute of Musical Studies Festival and began her master's degree work at the University of Cincinnati College-Conservatory of Music.

During the 2010-2011 season, Kate sang as a resident artist with the Salt Lake City-based Utah Opera, portraying Sandmann in a production of Humperdinck's *Hänsel and Gretel*. She then served as an apprentice artist with the Santa Fe Opera, where she performed the role of Dorabella in Mozart's *Così fan tutte*. In January, she begins her role as Papagena in Mozart's *The Magic Flute* with the Santa Fe Concert Association.

As a mezzo soprano, Kate says she sees plenty of opportunities for herself in the field. "There's a longevity for mezzos in opera; lots of different kinds of characters, from cute young girls to old ladies to witches," she says. Plus, opera comes with a built-in learning opportunity; singers are expected to know French, German, Italian and English, plus tackle more challenging languages — from Russian to Czech — as they advance.

Kate says she's using knowledge from both her Wesleyan majors — English and music. "It incorporates my love of literature," she says. "And yes, all those English classes analyzing literature have helped immensely! In opera, not only are you dealing with composers of all nations, you delve into the classic stories, poems and literature of all those nations."

For now, Kate is taking her career one day at a time. "My life in music has already allowed me opportunities I never expected. That's the beauty of it all," she says. "The end result isn't always clear, but it's my belief that you can never regret giving yourself fully to your dream."

— Sarah Zellen Julian '07

Kate Tombaugh (right) will play the role of Papagena in Mozart's *The Magic Flute*, beginning in January.

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# IV. Strip-Till

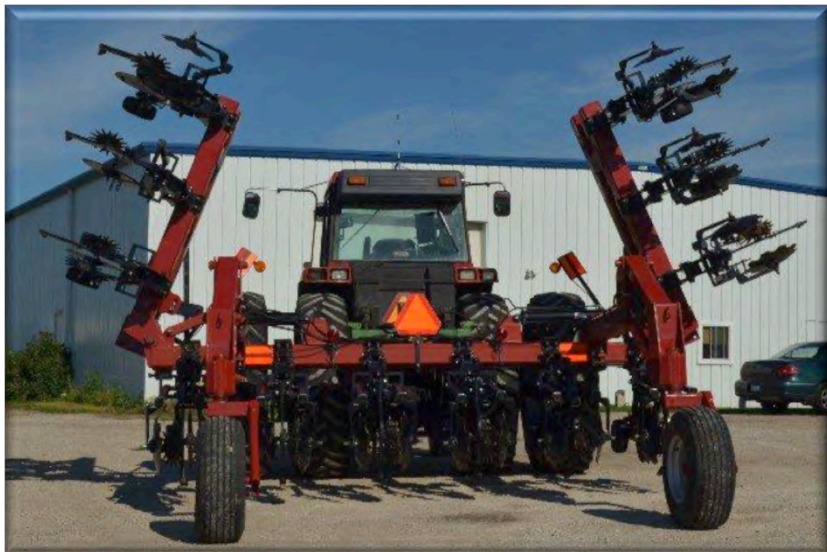
The logo features a stylized sun or flower icon with a central 'O' on a yellow background. To the right of the icon, the text reads "22nd Annual National No-Tillage Conference". Below this, it says "Springfield, Ill. • Jan. 15-18, 2014" and "An Honest No-Till Education".

22nd Annual  
National  
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# IV. Strip-Till (continued)





# V. Vertical Tillage



# VI. Cover Crops



# VII. Residue Digester

# VIII. Wet Spots





# IX.2013 “Experiments”

1. Annual Ryegrass.
2. Residue digester.
3. Vertical tillage on soybean stubble
4. Strips alone with RTK.



# IX.2013 “Experiments” (continued)

## 5. Planting corn.





# IX.2013 “Experiments” (continued)

6. Burndown.
7. Planting beans.
8. “Baby Foliar”.
9. Glyphosate trials.



# IX.2013 “Experiments” (continued)

## 10. Sidedressed Nitrogen.



## 11. Foliar micro-nutrient trials. (yield data)

## 12. Fungicides and insecticides.





# X. Yield Results



Year	Corn Yield
2003	179
2004	162
2005	173
2006	163
2007	176
2008	243
2009	223
2010	189
2011	215
2012	193

Year	Bean Yield
2003	32
2004	58
2005	50
2006	57
2007	60
2008	56
2009	43
2010	61
2011	69
2012	55

## 2012 East Field

Day		Bpa	Moisture	TW
110	Agri DGold 6458 VT3	250.99	22.70%	56
113	Agri DGold 6533 VT3	250.63	23.40%	55
111	Pioneer P1184 AM1/LL/RR2	244.76	22.10%	56
113	DeKalb DKC63-45 AR2/RR	237.58	23.60%	56
113	Pioneer P1319 AM1/LL/RR2	235.48	22.50%	56.5



# X. Yield Results (continued)



## 2012 South Place

Day		Bpa	Moisture	TW
114	NK74-3000GT	245.4	25.10%	53
114	NK74-3000GT	240.9	25.00%	54
113	Agri Gold 6533 VT3 next	216.9	25.40%	54
113	Agri Gold 6533 VT3 (no starter)	178.6	24.70%	54
113	DKC 63-42 VT3 downed corn	156.7	17.30%	55
113	DKC 63-42 VT3 standing	206.3	18.00%	55

9/27/12 Combined 5500 bu @ SP and put in GSI - Westfield PTO spider broke ended up buying all new shaft, Stellers to install spider for a spare.

Planted 36,000 into Strip Till/A w/160# N, 100# DAP, 50# K<sub>2</sub>O, 50# AMS and 4.8 gal 3-18-18 + 1 gal SB X-Cell Liquid on seed through Keton Seed Firmers.





# X. Yield Results 2013



Name	Yield	Moisture	Test Weight		
NK74R	237.9	20.0	55	corn previous	Glyphos only
NK74R	234.8	23.4	55	corn previous	TerraFed
NK74R	230.6	23.7	55	corn previous	Soil Biotics
NK74R	224.3	23.7	54	corn previous	No headline

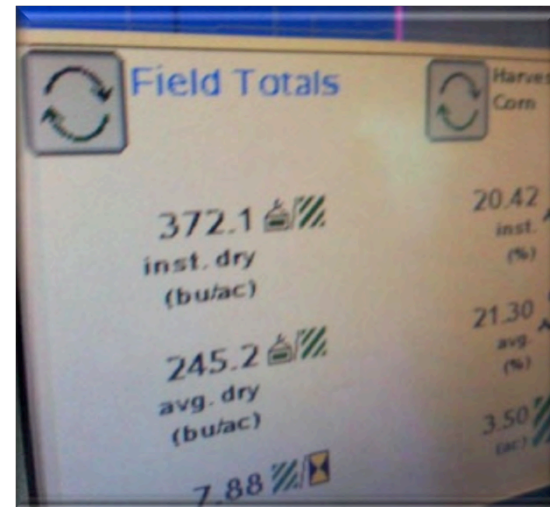
Name	Yield	Moisture	Test Weight		
DKC61-88	284.7	21.3	56	SB Foliar with sugar	
DKC63-33	282.6	20.0	56	SB Foliar with sugar	
DKC63-33	279.7	20.7	57	SB Foliar	
DKC63-33	277.4	19.7	57	Glyphos	
DKC63-33	272.9	21.4	57	TerraFed	

Name	Yield	Moisture	Test Weight		
P0833	247.2	23.4	55	soybeans previous	SB with sugar
P0833	246.2	23.4	55	soybeans previous	TerraFed
P0833	244.1	23.4	55	soybeans previous	Soil Biotics
P0833	242.4	23.4	55	soybeans previous	Glyphos only



# X. Yield Results 2013

Name	Yield	Moisture	Test Weight			
PH 8063	271.7	23.0	56	soybeans previous	No Starter	SB with sugar
DKC 63-33	266.3	21.2	57	soybeans previous		SB with sugar
PI 1221	262.7	19.9	57	soybeans previous		SB with sugar
PH 8063	262.5	23.7	56	soybeans previous	Starter	SB with sugar





# X. Yield Results Soybeans

2009 Severe white mold infestation.

2011 Cobra ½ rate yield checks 80 bpa

Year	Bean Yield
2003	32
2004	58
2005	50
2006	57
2007	60
2008	56
2009	43
2010	61
2011	69
2012	55

## 2013 Soybeans

Name	Yield	Moisture
92Y75	72.0	11.3
92Y75	71.5	11.0
92Y80	69.8	11.5

2013 Farm average 74.0 bpa

- All strip-tilled with dry fertilizer
- Most seed treated with SB ST



# XI. Closing comments

LT Life Lessons: Praise God! There is always good and bad in everything. Life and farming are a gamble – If you win, you get to keep on playing and if you lose, you are out! “ I Will” trumps IQ, but it would have been nice to have been smarter. If you must procrastinate, put it off until tomorrow. Sometimes 95% will just have to do for now. Everything I ever accomplished was done even though I was too short, too tall, too young, too old, too slow, etc. Being smart could just be in your head, being funny has to be in someone else’s. It is better to be lucky than smart.

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