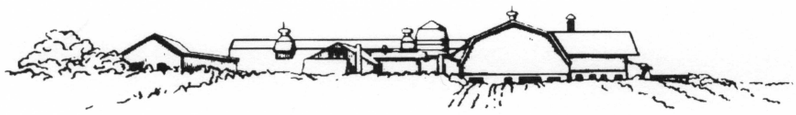

AGRICULTURAL NEWS

Schuyler and Steuben Counties

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Cover Crop Options for 2015

Mike Stanyard, NWNY Dairy, Livestock, & Field Crops Team

Winter grain harvest should be just about wrapped up. That leaves a lot of open ground out there to plant some cover crops. We also ended up with quite a few prevented planting corn and soybean acres this spring. Some of that ground will go into winter small grains like wheat, rye and barley this fall. If you do not grow winter grains in your rotation, it is a good opportunity to get that ground covered up. There is also an opportunity to grow some more forage acres. This wet growing season has not been stellar for corn production. Crops like sorghum, forage oats and triticale can help fill in some of those forage losses. The past couple of years have shown us that the first half of August has been the optimal planting window for success of most cover crops.

There has been a huge emphasis on soil health, and cover crops are an important piece of this puzzle. There are a lot of options when it comes to choosing a cover crop species (See table). You have to ask yourself, "What do I want to accomplish?" is it soil conservation, increase organic content, a trap crop for nitrogen, comply with conservation payments or weed control? Some other things to consider is cost (See table). Do you want a species that winterkills or overwinters? Is compaction an issue? Do I need some extra forage? We know that there is a benefit to keeping something growing and covering our fields at all times. It looks like there is also a benefit to planting multiple species together. Mixing tap root and fibrous root species together helps create soil microorganism biodiversity.

We know radishes do a great job of loosening up the soil when there is a compaction issue. However, there is some concern that we may not get the nitrogen back that we put into them. Radishes degrade very quickly in the early spring. Is all the nitrogen gone by the time the corn is ready for it? It might be more beneficial to plant an overwintering species like a winter grain or ryegrass with the radish to pick up that N and keep it around longer so the corn can utilize it when it needs it most.

We have seen cover crops planted with many different drills, air flowed, broadcast and aerially applied. All can be successful; however, proper calibration can be tedious and frustrating. Most planters do not have settings for some of these non-traditional plants. Take the time to work it out! You do not want to waste your time by putting on too little and you do not want to waste money by putting on way too much.

Cornell Cooperative Extension

Steuben County

Preventative Planting Acres

If a cover crop is being planted following a planned corn or soybean crop, check herbicide labels if a pre-emerge was applied. Some of the small seeded cover species may not be able to be planted due to plant back restrictions. Penn State has a great herbicide reference table for cover crops, http://extension.psu.edu/plants/crops/soil-management/cover-crops/herbicide-persistence/herbicide-carryover-table. The folks at Purdue University have also put out good a reference, "Cover Crops for Prevented Planting Acres," https://ag.purdue.edu/agry/extension/Documents/PreventedPlantingCovers2015.pdf.

Extra Forage

There are a couple of options for the early August planting date. A common choice is spring/forage oats. They are usually in the boot stage by mid-October. I have seen from 1.5 to 2 tons dry matter per acre. You can add annual ryegrass to the mix and field peas or clover if higher protein is desired. Planting winter triticale has become popular after corn silage harvest. It is harvested in May just after flag stage emergence (GS 9). We have seen 2-4 tons of dry matter per acre in NY. See the Winter Triticale Forage factsheet at http://nmsp.cals.cornell.edu/publications/factsheets/factsheet56.pdf for specifics.

		Broadcast	Price/lb.	Winterkill?
Annual Rye Grass	10-20 lbs.	20-30 lbs.	$.80/lb.	N
Sorghum-Sudangrass	30-40 lbs.	30-40 lbs.	$.60/lb.	Y
Crimson Clover	12 lbs.	20 lbs.	$1.46/lb.	N
White Clover	5-9 lbs.	7-12 lbs.	$4.70/lb.	N
Red Clover	7 lbs.	10 lbs.	$2.64/lb.	N
Field Peas/Austrian Winter Peas	120/50 lbs.	140/60 lbs.	$.70/.92?lb.	Y/N
Hairy Vetch	15-20 lbs.	25-30 lbs.	$2.68/lb.	N
Forage Radishes	8-10 lbs.	12 lbs.	$2.60/lb.	Y
Forage Turnips	4-7 lbs.	10-12 lbs.	$2.50/lb.	N
Oats (Spring/Forage)	80-110 lbs.	110-140 lbs.	$.43/lb.	Y
Triticale	80 lbs.	110 lbs.	$.52/lb.	N
Wheat	70 lbs.	100 lbs.	$.33/lb.	N
Winter Cereal Rye	60 lbs.	85 lbs.	$.30/lb.	N

Corn Diseases

CROP ALERT July 24, 2015 **Mike Stanyard**,
Regional Agronomist,
Cornell Cooperative Extension

Continue to watch for developing leaf diseases. Many fields have begun to tassel (VT) and it is a crucial time for scouting corn and determining if a fungicide application is warranted. We have had reports this week of severe Northern corn leaf blight (NCLB) on sweet corn in the region. This tells us that lots of inoculum is in the atmosphere and any susceptible varieties are vulnerable. These fields should be watched carefully! Hopefully,

you have planned ahead and planted hybrids with the highest level of resistance. Even though spores can move long distances, continuous corn fields and no-till fields with lots of corn residue are also the most vulnerable from local spore development and dispersal. Eyespot has also been found earlier than normal across the region. Go to Cornell's Field Crop webpage to learn more about both of these diseases,

http:// fieldcrops.cals.cornell.edu/corn/diseases-corn.

Median Income of Farm Households Exceeds that of U.S. Households

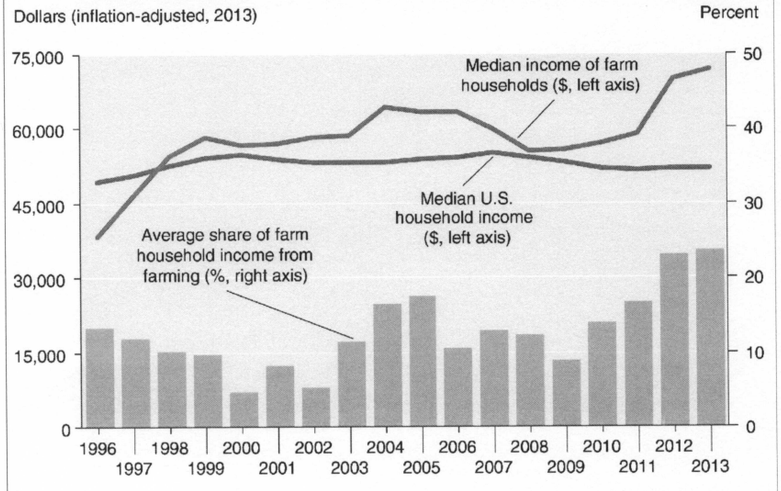
This notification service is provided by the USDA's Economic Research Service to keep you informed on the latest and most relevant research on the topics that interest you.

http://www.ers.usda.gov

by **Michael James Baker** on July 14, 2015

Since USDA's Agricultural Resource Management Survey began collecting data in 1996, the median income of farm households has risen while real U.S. median household income has remained essentially flat. This may be due to a variety of factors, including farm consolidation, increasing commodity prices, and minimal increases in hourly wages for all U.S. workers. In 2013, the median household income of farm households was about $72,000, compared with $52,000 for all U.S. households. Farm households benefited from high commodity prices in 2012 and 2013; however, many farm households experience considerable variability in their income from year-to-year compared with their non-farm counterparts.The share of farm household income from farming (shown in the green bars) varies, accounting for as little as 5 percent in the early 2000s and reaching a high of 24 percent in 2013. The importance of farm income to households also varies with the size of the operation. ! Households with smaller and intermediate size farms typically receive the majority of their income from off-farm sources, while large (commercial) farm households derive the bulk of total household income from their farm activities. The most recent ERS farm sector income forecast shows farm sector income for 2014 and 2015 returning to pre-2012 levels. Households operating large farms are the most vulnerable to decreases in farm income. This chart is based on data found in Farm Household Income and Characteristics and information found in the Farm Household Well-being topic page.

Median U.S. household income, median farm operator household income, and average share of income from farming, 1996-2013



Source: USDA, Economic Research Service and National Agricultural Statistics Service, Agricultural Resource Management Survey and U.S. Census Bureau, Current Population Survey. Data as of November 25, 2014.

Andrew M. Novaković
The E.V. Baker Professor of Agricultural Economics
Director of Outreach

As I suspect you've all been noticing, this has been shaping up as a not so great year for dairy farmers and it seems to be heading south. Of course the price of milk captured our attention starting a few months ago, local weather has been a bugger in most of NY, and the price outlook for the corn crop (especially) has been pushed by weather concerns elsewhere, strong demand, and lower reported stocks. All of this is ganging up on dairy producers.

This leads me to a couple of items related to tools on our dairymarkets.org website.

Existing Forecasts for the National Dairy Margin

As I trust you recall, the MPP decision tool we opened last year features a margin forecasting tool that presents future margins in both a graphic and table format. I don't know if you look at that from time to time, but it has been a steady illustration of how a low milk price and rising feed costs are pushing current and expected margins farther and farther south. A few months ago, the lower milk price was sufficiently offset by low feed prices to keep the margin in an acceptable zone - average or no worse than the low side of average. Look at it now and you will see that average is beginning to look optimistic. The probabilities for margins in the $4 vicinity have gone from 0 to upwards of 8%. A $6 margin, a level we've generally thought of as ugly but not catastrophic, is popping up from 20-30% over the next 12 months. For the remainder of 2015, it looks like anyone who bought MPP below $7.50 is still unlikely to see a benefit payment but as we push out towards 2016 those mid-range MPP levels are hard to dismiss out of hand.

New MPP Tool

DMAP has just unveiled a new capability in the decision tool. It is accessed via a tab labeled "MPP Advanced". Few farmers will find this tool useful, I'm afraid. It is designed for more sophisticated risk managers or for lenders and farm management advisers. Still, I want to bring it to your attention for a couple of reasons.

The advanced tool has several new features.

One, it allows users to enter their own prices, including an option to move prices up and down with a simple slider tool as well as manual entry. This will allow users to explore alternative price scenarios. It will also make it possible for a farmer to enter his own prices or expected prices to get a rough estimate of his own Income Over Feed Cost. I say rough because even though he plugs in his own prices it will still use the national formula in terms of blending corn, meal, and hay. Nevertheless, this might be a helpful approximation for some folks.

Two, it separates out the parts of the margin, so you can look at how much is milk, corn, soybean meal and alfalfa. This allows users to see the separate effect of changing just one element, say corn prices.

Fiddling with these prices results in different net payouts at different margin levels.

Three, the tool offers a "stress test". Using the prices that a user selects on page 1, page 2 lets them input some descriptors of their farm to then get some approximations on measures of profitability, liquidity and solvency. Some of the input data requirements are easy - how many cows, production history, etc. Some are financial measures that many farmers will not find so easy. The concept of the stress test tool is that each farm can explore to what extent MMP can help them financially given their particular financial condition. It gives outputs that show how much your liquidity position, say, would be helped (or hurt) if you bought different levels of MPP. I think it is a pretty useful feature but it clearly won't be for everyone.

Educational Efforts for the Current Sign-up

My hunch is that dairy farmers aren't thinking especially positively about MPP at this point. I completely get this, but I think our educational challenge remains to help them think about whether it makes more sense to go into next year entirely commando or whether spending a little on downside protection is worth it. The current forecasts for 2016 are a good deal more ugly than what we thought might happen in 2015 when we were looking at the numbers available in December 2014. I would say the numbers we had to work with when the last sign up finished proved to be pretty good. Some of you may remember that I said if getting a payment is important to you, you better be prepared to be all in; because payments would only be made at the highest levels. Furthermore, this had to be balanced against those higher premiums. That is exactly what we are seeing unfold in 2015.

Farmers can be disappointed that MPP didn't give them more help in 2015, but it gave them about as much help as we told them it would.

Whether that justifies giving up on the program in 2016 is a call everyone will have to make. Anything can happen but the market portents for milk continue to be bearish and the portents for corn and other feeds remain bullish.

I have not been in any great hurry to push out MPP educational materials as I'm sure farmers aren't going to be giving it serious thought until September but I will be doing more later in the summer.

In the meantime, please think about what would be helpful to your producers and let me know if there are particular things I can do or questions I can try to answer that would be helpful to you or your producers.

Burcucumber

Abstracts:

- **Effect of burcucumber (*Sicyos angulatus*) establishment date and crop competition on burcucumber fecundity.** 2001. W.R. Esbenshade, W. S. Curran, G. W. Roth, N. L. Hartwig, And M. D. Orzolek. Weed Sci. 49:
- **Effect of tillage, row spacing, and herbicide on the emergence and control of burcucumber (*Sicyos angulatus*) in soybean (*Glycine max*).** 2001. W.R. Esbenshade, W. S. Curran, G. W. Roth, N. L. Hartwig, And M. D. Orzolek. Weed Technol. 15:229–235.
- **Effect of row spacing and herbicides on burcucumber (*Sicyos angulatus*) control in herbicide-resistant corn (*Zea mays*).** 2001. W. R. Esbenshade, W. S. Curran, G. W. Roth, N. L. Hartwig, and M. D. Orzolek. Weed Technol. 15: 348–354.
- **Tillage and Herbicides Affect Burcucumber (*Sicyos angulatus* L.) Management in Corn.** 2000. D.T.

Messersmith, W.S. Curran, G.W. Roth, N.L. Hartwig, and M.D. Orzolek. Agron. J. 92:181-185.

- **Examination of burcucumber (*Sicyos angulatus*) seed germination and dormancy.** 2000. W. S. Curran*, Penn State University, University Park; and W. E. Dyer and B. D. Maxwell, Montana State University, Bozeman. Abstr. WSSA 40:64.
- **The effect of tillage, row spacing, and herbicide for burcucumber (*Sicyos angulatus*) management in soybean.** 2000. W.R. Esbenshade* and W.S. Curran. Abstr. WSSA 40.
- **Evaluation of Several Herbicides For Burcucumber (*Sicyos angulatus*) Control In Corn.** 1999. D.T. Messersmith, W.S. Curran, N.L. Hartwig, M.D. Orzolek, And G.W. Roth. Weed Technol. 13:520-524.
- **Effect of Emergence Date and Corn Competition on Burcucumber Fecundity.**1999. W. R. Esbenshade and W.S. Curran. NEWSS 53:22.
- **Effect of Tillage and Herbicide Application Timing on Burcucumber (*Sicyos angulatus* L.) Control in Corn.** 1997. D. T. Messersmith and W. S. Curran. WSSA Abstracts 37:245.
- **Effect of POST Application Timing of Five Herbicides on Burcucumber Control in Corn.** 1997. D.T. Messersmith and W.S. Curran. Proc. NEWSS 51:35.
- **Burcucumber Biology and Management in Corn.** 1996. D.T. Messersmith and W.S. Curran, Proc. NEWSS 50:71.

Effect of burcucumber (*Sicyos angulatus*) establishment date and crop competition on burcucumber fecundity. 2001. W.R. Esbenshade, W. S. Curran, G. W. Roth, N. L. Hartwig, And M. D. Orzolek. Weed Sci. 49:

An experiment examining the effect of *Sicyos angulatus* emergence date and *Z. mays*competition on *S. angulatus* fecundity was conducted in 1997 and 1998 in central PA. *S. angulatus* seedlings were transplanted in the field on approximately 10 d intervals starting in late May through mid-August with or without competition from a *Zea mays* crop. *S. angulatus* plants grown without competition from *Z. mays* produced 716 g dry matter and 4500 seeds plant-1 in 1997 and 607 g dry matter and 1800 seeds plant-1 in 1998. Biomass was greatest for plants established in late May whereas seed production was greatest for plants established in mid June. Although seed numbers were reduced in comparison to the May and June establishment periods, plants established as late as August still produced seed.*S. angulatus* established in *Z. mays* produced 96% less dry matter and seed than the plants in a noncompetitive environment in both years of the study. Although the growth and seed production of *S. angulatus* grown in *Z. mays* was drastically reduced, plants established as mid-July still produced seed.

Effect of tillage, row spacing, and herbicide on the emergence and control of burcucumber (Sicyos angulatus) in soybean (*Glycine max*). 2001. W.R. Esbenshade, W. S. Curran, G. W. Roth, N. L. Hartwig, And M. D. Orzolek. Weed Technol. 15:229–235.

Experiments examining the effect of tillage and soybean row spacing on burcucumber emergence and growth and the effect of postemergence (POST) herbicides on burcucumber control in soybean were conducted in 1997 and 1998 in southeastern PA. In the tillage and row spacing study, a glyphosate resistant soybean variety was planted in no-till and reduced tillage systems in 38 and 76 cm row spacings. In the POST herbicide experiment, chlorimuron, glyphosate, oxasulfuron, thifensulfuron, and several combinations of these herbicides were applied at two different POST application timings in 38 cm row soybean planted in a reduced tillage system. In the tillage and row spacing study, burcucumber emergence was greatest starting in late May through mid June and mostly ceased by early July, regardless of tillage

system or row spacing. Although there was no difference in germination period in either tillage system, preplant tillage increased the number of emerged plants by 110% in 1997 and 70% in 1998 compared to no-till. Row spacing had no effect on burcucumber emergence or biomass production, but did influence soybean yield in 1997. Soybean yield was about 15% higher in the narrow row spacing compared to wider rows. In addition, herbicide treated plots averaged 12% more soybean grain than untreated plots. In general, most POST herbicide programs controlled burcucumber and application timing was not important. In 1997 and 1998, chlorimuron at the high rate, chlorimuron + thifensulfuron, glyphosate, glyphosate + chlorimuron, and glyphosate + oxasulfuron provided 87% or greater control of burcucumber 12 wk after planting (WAP). In both years, these herbicides reduced burcucumber density and biomass by greater than 56 and 96%, respectively.

Effect of row spacing and herbicides on burcucumber (*Sicyos angulatus*) control in herbicide-resistant corn (*Zea mays*). 2001. W. R. Esbenshade, W. S. Curran, G. W. Roth, N. L. Hartwig, and M. D. Orzolek. Weed Technol. 15: 348–354.

Experiments examining burcucumber management in glufosinate resistant (GR) and imidazolinone resistant (IMI) corn were conducted in 1997 and 1998 in southeastern Pennsylvania. GR corn was planted in 38- and 76-cm rows and postemergence (POST) treatments of glufosinate and glufosinate plus atrazine were applied to corn at the V4 or V5 growth stage. In a second study, IMI corn was planted in 76-cm rows and fifteen preemergence (PRE) and POST herbicide programs were evaluated. Herbicide treatments included isoxaflutole, prosulfuron, simazine, imazethapyr plus imazapyr, imazamox, chlorimuron plus thifensulfuron, nicosulfuron plus rimsulfuron plus atrazine, prosulfuron plus primisulfuron, and combinations with atrazine. Burcucumber germinated throughout the growing season, with greatest emergence occurring in early June gradually decreasing to minimal emergence by mid July. Glufosinate alone controlled burcucumber 79 to 90% 7 weeks after planting (WAP) regardless of application timing or row spacing. By 10 to 13 WAP, control was 82% or less due to lack of residual control and new burcucumber emergence. Row spacing had little effect on burcucumber emergence or control and appears to have little impact on burcucumber management in corn. In general, PRE herbicide programs were less effective than POST programs, although PRE treatments containing atrazine equaled some POST herbicides. POST applied chlorimuron plus thifensulfuron, nicosulfuron plus rimsulfuron plus atrazine, and prosulfuron plus primisulfuron controlled burcucumber greater than 80 and 90% in 1997 and 1998, respectively. Imazethapyr plus imazapyr and imazamox applied POST controlled burcucumber 66% 10 WAP. Adding atrazine to POST herbicide programs did not increase control with the exception of imazethapyr plus imazapyr.

Tillage and Herbicides Affect Burcucumber (*Sicyos angulatus* L.) Management in Corn. 2000. D.T. Messersmith, W.S. Curran, G.W. Roth, N.L. Hartwig, and M.D. Orzolek. Agron. J. 92:181-185.

The effect of tillage and herbicide application timing was examined on established populations of burcucumber (*Sicyos angulatus* L.) in corn (*Zea mays* L.). The field study consisted of three tillage regimes (moldboard plow/disk, chisel plow/disk, and no-tillage) and three herbicide treatments; atrazine, 6-chloro-N-ethyl-N'-(1-methylethyl)-1,3,5-triazine-2,4-diamine plus the dimethylamine salt of dicamba, 3,6-dichloro-2-methoxybenzoic acid applied preemergence (PRE) or postemergence (POST) and no atrazine plus dicamba (no broadleaf herbicide). Postemergence treatments were applied to 3 to 6-leaf corn and to cotyledon to 8-leaf burcucumber. In two of three field locations, late-season burcucumber dry wt. was approximately 65% less in no-tillage than in the moldboard plow treatment, while no difference in burcucumber dry wt. was observed between chisel plow and no-tillage treatments.

Regardless of tillage system, atrazine plus dicamba applied POST was more effective than PRE applications. Corn grain yield was not affected by tillage treatment, but was higher in both the PRE and POST treatments than in the no broadleaf herbicide treatment. Depth of burcucumber seedling emergence was examined in the greenhouse. Pre-germinated burcucumber seeds were placed in the soil at 0, 1, 3, 5, 10, 15, and 20 cm deep. Percent emergence was highest in the 1 to 5 cm depth. Less burcucumber emerged from depths of 10 cm or greater or when burcucumber was placed on the soil surface. These data suggest that tillage and herbicide timing can influence burcucumber control.

Examination of burcucumber (*Sicyos angulatus*) seed germination and dormancy.2000. W. S. Curran*, Penn State University, University Park; and W. E. Dyer and B. D. Maxwell, Montana State University, Bozeman. Abstr. WSSA 40:64.

Burcucumber (*Sicyos angulatus* L.), an annual vine, is a problem weed in portions of the U.S. corn belt. Burcucumber seed can survive for long periods in the soil and seed dormancy is likely a factor in their persistence. Several experiments were conducted with seed from burcucumber in order to identify optimum conditions for germination and describe possible mechanisms of dormancy. Controlled environment chamber experiments included cold stratification up to 16 wk at 5 °C, an alternating 25/10 °C temperature regime, effect if seed coat disruption and removal, effect of water and methanol soluble seed coat extracts on seed germination, and effect of oxygen enrichment on seed germination. Most experiments were conducted in the dark at 25 °C for 7 days. In addition, a temperature gradient experiment (10 to 35 °C) was conducted to determine optimum temperature for germination.

Untreated burcucumber seed (intact) did not germinate. Even after 16 wk cold stratification, germination was 5% or less. However, partial seed coat removal increased germination up to 30%. Removing a 1 to 2 mm portion of seed coat (snipped) on the radicle end provided the greatest improvement. Complete seed coat removal (naked) increased germination to as much as 90% and removing half the seed coat was no different than complete removal. Neither water nor methanol soluble extracts had any impact on naked seed germination. Oxygen enrichment did not affect intact seed germination, but did increase snipped seed germination to about 60%. In the temperature gradient experiment, naked seed germination was 84% at 25 °C and only 49 and 42% at 10 and 35 °C, respectively. An alternating day night temperature (25/10 °C) did not improve percent germination compared to constant 25 °C. These experiments support an impermeable seed coat to water and possibly

oxygen as contributing factors to burcucumber seed dormancy.

The effect of tillage, row spacing, and herbicide for burcucumber (*Sicyos angulatus*) management in soybean. 2000. W.R. Esbenshade* and W.S. Curran. Abstr. WSSA 40.
Burcucumber (*Sicyos angulatus* L.), an annual climbing vine, has become a difficult weed to control in agronomic crops. Tillage and row spacing as well as herbicides can influence weed germination, emergence, and reproduction. In 1997 and 1998, a tillage and row spacing study as well as a herbicide timing experiment were conducted in southeastern PA. A Roundup-Ready/STS soybean was used in both experiments. In the tillage and row spacing study, soybean was planted in no-till and reduced tillage systems in 38 and 76 cm row spacings. Half the plots received a POST application of glyphosate + thifensulfuron at 1.1 kg ai/ha + 4.4 g ai/ha, respectively four weeks after planting. Weekly counts of burcucumber emergence were taken throughout the growing season and soybean grain yield was measured at harvest. In the herbicide experiment, chlorimuron, glyphosate, oxasulfuron, thifensulfuron, and several combinations of these herbicides were applied at three different timings in conventionally seeded soybean planted in 38 inch rows. Weed control, density, and soybean grain yield were measured.

Regardless of tillage system or row spacing, burcucumber emergence was greatest in spring and early summer (May - mid June) and mostly ceased by early July. Although there was no difference in germination period in either tillage system, preplant tillage increased the number of emerged plants by 53% in 1997 and 41% in 1998 compared to no-till. Row spacing had no effect on burcucumber emergence, but did influence soybean yield. The narrow row spacing produced yields about 15 and 4% greater than wider rows, in 1997 and 1998 respectively. In addition, soybean yield in the herbicide treated plots averaged approximately 11% higher than untreated plots. In general, most herbicide programs controlled burcucumber and application timing was not important. The best herbicides for control of burcucumber were chlorimuron, chlorimuron + thifensulfuron, glyphosate, and glyphosate + chlorimuron.

Evaluation of Several Herbicides For Burcucumber (*Sicyos angulatus*) Control In Corn. 1999. D.T. Messersmith, W.S. Curran, N.L. Hartwig, M.D. Orzolek, And G.W. Roth. Weed Technol. 13:520-524.
A postemergence (POST) timing study was conducted on established populations of burcucumber in corn, while a second study examined the residual activity of several herbicides for burcucumber control under greenhouse conditions. In the field study, flumiclorac, halosulfuron, primisulfuron, prosulfuron, and prosulfuron + primisulfuron (45, 71, 40, 40, and 20 + 20 g ai/ha respectively) were applied at two POST timings. Prosulfuron, primisulfuron, and the combination provided greater than 85% control of burcucumber 14 WAP. Flumiclorac and halosulfuron provided 60% control or less by 8 WAP. Timing of the POST applications did not influence burcucumber control by 11 WAP with any herbicide. In the greenhouse, germinated burcucumber seeds were placed in soil treated with atrazine, chlorimuron, primisulfuron, or prosulfuron at normal field use rates. All treatments provided similar residual control early; however by 4 weeks after treatment, control from atrazine was less than 10% compared to 69% for chlorimuron and about 50% for primisulfuron and prosulfuron. This research suggests that prosulfuron and primisulfuron can both be effective for managing burcucumber in corn, while flumiclorac and halosulfuron proved ineffective.

Effect of Emergence Date and Corn Competition on Burcucumber Fecundity. 1999. W. R. Esbenshade and W. S. Curran. NEWSS 53:22.
Burcucumber (*Sicyos angulatus* L.) is an annual climbing vine that produces multiple flushes of seedlings from mid-May to September in agronomic crops. Due to its

prolonged germination period, control of burcucumber has been difficult. The effect of emergence date on burcucumber's overall growth and seed production is not fully known. An experiment examining the effect of burcucumber emergence date and corn (*Zea mays* L.) competition on burcucumber fecundity was conducted in 1997 and 1998. Burcucumber seedlings were established on approximately 10 day intervals starting in late May through mid-August in corn and a non-crop environment. Measurements including leaf number, vine length, flowering period, overall plant biomass, seed number, and seed viability were determined.

Burcucumber plants in a non competitive environment experienced tremendous growth producing 700 g of dry matter and 4500 seeds per plant in 1997 and 600 g of dry matter and 1740 seeds per plant in 1998. Plant dry matter was greatest in the first establishment date (May 23) in both years and decreased for the establishment dates thereafter. Seed production peaked 21 days after the initial establishment (June 13). Although seed numbers were drastically reduced in comparison to the earlier establishments, plants established as late as 70 days after the initial establishment (August 5) were still able to produce seed. Burcucumber plants grown in corn only produced a fraction of the dry matter and seed of the plants in a non-crop environment in both years of this study. In most cases, burcucumber growth was reduced to about 5% of the growth of non-crop environment grown plants due to the competition by the crop. Although the growth and seed production of burcucumber grown in corn was drastically reduced, plants emerging as late as 50 days after the initial establishment (July 14) were still able to produce seed.

In summary, emergence date plays a vital role in the growth and development of burcucumber. Burcucumber exhibits substantial growth when grown without the competition of a crop. Burcucumber is capable of producing seed even when emerging as late as Aug. 5 in a non-crop environment. Crop competition greatly reduces the growth and seed production potential of burcucumber. No burcucumber seed was produced in a corn crop if burcucumber emerged after mid July.

Effect of Tillage and Herbicide Application Timing on Burcucumber (*Sicyos angulatus* L.) Control in Corn. 1997. D. T. Messersmith and W. S. Curran. WSSA Abstracts 37:245.

A tillage and herbicide timing study was conducted on established populations of burcucumber in corn during 1995 and 1996. The study consisted of three tillage regimes and three herbicide treatments. Tillage treatments were moldboard plow/disk, chisel plow/disk, and no-tillage. Atrazine and dicamba (1791 and 560 g ai ha-1, respectively) were applied to each tillage treatment, either preemergence or postemergence, and were compared to untreated checks. Nonionic surfactant was added to postemergence treatments at 0.25% (v/v). Preemergence treatments were applied before crop/weed emergence, and postemergence treatments were applied to 3 to 6-leaf corn and cotyledonary to 8-leaf burcucumber. In two of three locations, burcucumber control was better in no-tillage than in conventional tillage. No difference in burcucumber biomass was observed between chisel plow and no-tillage treatments. At a third location, tillage system had less affect on burcucumber management, although early season control was less in the chisel plow/disk treatments. Differences in tillage history and climatic conditions may have been responsible for the variability between locations. Regardless of tillage system, postemergence applications were more effective than preemergence applications averaging 91% control compared to 53% control with preemergence treatments. These data suggest that tillage can influence the level of burcucumber control, and that postemergence herbicide applications are more effective than preemergence treatments.

Effect of POST Application Timing of Five Herbicides on Burcucumber Control in Corn. 1997. D.T. Messersmith and W.S. Curran. Proc. NEWSS 51:35.

Burcucumber (*Sicyos angulatus* L.) is becoming an increasingly difficult to control weed in agronomic crops throughout the Northeast. Several new postemergence corn (*Zea mays* L.) herbicides may be effective on burcucumber, however specific data on burcucumber control is lacking.

A postemergence timing study was conducted on established populations of burcucumber in corn at two Pennsylvania locations in 1995 and again in 1996. Prosulfuron, primisulfuron, halosulfuron, and flumichlorac were applied at a single rate (0.036, 0.036, 0.063, and 0.040 lb ai/A respectively) and two postemergence timings. A prosulfuron + primisulfuron treatment (0.036 lb ai/A) was added to the study in 1996. Crop oil concentrate was included with all treatments at 1.0% (v/v) except flumichlorac which received non-ionic surfactant at 0.25% (v/v). Treatments were applied 10 to 14 days apart either early postemergence to 3-leaf corn and cotyledonary to 2-leaf burcucumber or late postemergence to 6-leaf corn and 5-leaf burcucumber. Individual plot size measured 10 by 25 feet, and treatments were arranged in a randomized complete block design with 4 replications. Parameters measured included burcucumber density, visual estimates of burcucumber control, and burcucumber biomass production.

Burcucumber emergence started in early May and continued through mid-August each year in the untreated plots. Early June burcucumber density across all locations ranged from 0 to 1 plant/square foot and averaged 0.35 plants/square foot. Regardless of June burcucumber density, untreated plots were over run with burcucumber by late season. Prosulfuron provided 98 and 96% control of burcucumber in 1995 and 1996, respectively. Control with primisulfuron was 85% in 1995 and 93% in 1996, and differences between prosulfuron and primisulfuron were seldom significant. Burcucumber biomass production in the prosulfuron and primisulfuron treatments was not different in either year. The prosulfuron + primisulfuron combination was similar to either product alone. Flumichlorac and halosulfuron were ineffective at providing season long control of burcucumber in both years of the study. The late postemergence treatments appeared to provide better late season control of burcucumber, especially in 1996, although the differences were not significant. This study suggests that prosulfuron, primisulfuron, and prosulfuron + primisulfuron can be effective for managing burcucumber in corn. However, more research is needed to identify optimum postemergence application timing.

Burcucumber Biology and Management in Corn. 1996. D.T. Messersmith and W.S. Curran. Proc. NEWSS 50:71.

Burcucumber (*Sicyos angulatus* L.) is becoming a serious weed problem in agronomic crops throughout the Northeast. Originally found along stream banks and other damp, shady areas, burcucumber has invaded river bottom and upland fields. Burcucumber seed germinate from early May through August emerging from depths up to 6 inches. Control of burcucumber proves to be a challenge since its germination and growth habits are not fully understood.

In 1995, two field studies were conducted on established populations of burcucumber in corn (*Zea mays* L.). A tillage and herbicide timing study was conducted at a single location. The study consisted of three tillage regimes and three herbicide treatments. Tillage treatments were moldboard plow/disk, chisel plow/disk, and no-tillage. Atrazine and dicamba (1.6 and 0.5 lb ai/A, respectively) were applied to each tillage treatment, either preemergence or postemergence, and were compared to untreated checks. Nonionic surfactant was added to postemergence treatments at 0.25% (v/v). The postemergence treatments were applied to 3 leaf stage, 6 inch corn and 3 leaf stage burcucumber. A postemergence timing study was conducted at two locations. Prosulfuron, primisulfuron, halosulfuron, and

flumichlorac (0.036, 0.036, 0.063, and 0.040 lb ai/A respectively) were applied at a single rate and two postemergence timings. Crop oil concentrate was added to all treatments at 1.0% (v/v). The herbicide treatments were compared to untreated checks. The first timing postemergence treatment was applied to 3 leaf stage, 6 inch tall corn and cotyledonary to 2 leaf stage burcucumber. The second timing was applied to 6 leaf , 12 inch corn and 5 leaf stage burcucumber.

Tillage alone had no effect on burcucumber density. However, postemergence applications were more effective than preemergence treatments with the best control achieved in the no-till/postemergence treatment. Prosulfuron provided better than 95% control of burcucumber, followed closely by primisulfuron. Burcucumber biomass between the prosulfuron and primisulfuron treatments was not different. Flumichlorac and halosulfuron were ineffective at controlling burcucumber. Postemergence application timing had no effect on burcucumber control or biomass.

Soil Health Speakers, Cover Crops/Interseeding at Empire Farm Days

Carol MacNeil, Cornell Cooperative Extension Vegetable Program

Join us at the new Soil Health Seminar Center on August 11-13, 2015, to hear and meet nationally renowned soil health researchers, industry speakers, and experienced growers. Cover crop demos, and inter-seeded soybean plots and equipment, will be nearby. This new center is at Empire Farm Days Lot #922, Rodman Lott & Sons Farms, Rt. 414, Seneca Falls. Presentations will occur mornings beginning at 9:30 am. Featured topics each day include new practices and innovations in:
Tuesday – Cover Crops
Wednesday – Reduced Tillage
Thursday – Nutrient Management

Soil Scientist William Brinton, inventor of the Solvita^{R} test for soil respiration, Woods End Soil Lab, Mt. Vernon, ME, will speak Tuesday and Wednesday on soil biology, and on soil health testing and management. Agronomist Dave Wilson, Kings Agriseeds, and Farm Sales Manager Adam Robertson, Seedway, will speak Tuesday and Wednesday, respectively. Karl Czymmek, Cornell Management SPEAR Program, and Dave DeGolyer, WNY Crop Management Assoc., will speak Thursday. Grower panelists will focus on the day's topic.

Lunch will be sponsored by Kings Agriseeds for those attending the morning program. USDA-NRCS, SWCD, Cornell and CCE Cornell Vegetable Program staff will be present to offer technical assistance or describe cost-share programs. For info on Empire Farm Days go to: http://empirefarmdays.com/
For more info on the Soil Health program at EFDs contact Paul Salon, USDA-NRCS at: paul.salon@ny.usda.gov
Organized by the NYS Soil Health Working Group, made up of USDA-NRCS and SWCD reps, Cornell/Cooperative Extension, and growers.

Dairy Market Watch

Milk Component Prices			Milk Class Prices				Statistical Uniform Price & PPD					MPP
Month	Butterfat	Protein	I (Boston)	II	III	IV	Jamestown, NY		Albany, NY		Albany $/gal. to farmer	Milk Margin Minus Feed Costs ($/cwt)*
June 14	$2.44	$3.34	$26.11	$23.94	$21.36	$23.13	$23.23	$1.87	$23.83	$2.47	$2.05	$11.65
July 14	$2.63	$3.18	$26.27	$24.41	$21.60	$23.78	$23.60	$2.00	$24.20	$2.60	$2.09	$12.68
Aug 14	$2.84	$3.15	$27.12	$25.34	$22.25	$23.89	$24.26	$2.01	$24.86	$2.61	$2.14	$13.74
Sep 14	$3.24	$3.49	$26.88	$26.11	$24.60	$22.58	$25.01	$0.41	$25.61	$1.01	$2.21	$15.40
Oct 14	$2.85	$3.74	$27.44	$21.93	$23.82	$21.35	$23.20	($0.62)	$23.80	($0.02)	$2.00	$15.62
Nov 14	$2.20	$3.90	$27.31	$19.91	$21.94	$18.21	$21.11	($0.83)	$21.71	($0.23)	$1.87	$13.39
Dec 14	$2.10	$2.74	$25.78	$19.09	$17.82	$16.70	$19.87	$2.05	$20.47	$2.65	$1.76	$10.66
Jan 15	$1.69	$2.67	$21.83	$16.18	$16.18	$13.23	$16.42	$0.24	$17.02	$0.84	$1.47	$8.34
Feb 15	$1.83	$2.41	$19.49	$14.48	$15.46	$13.82	$15.51	$0.05	$16.11	$0.65	$1.39	$7.66
Mar 15	$1.84	$2.49	$18.81	$14.50	$15.56	$13.80	$16.40	($0.31)	$15.85	$0.29	$1.37	$7.53
Apr 15	$1.89	$2.56	$18.75	$14.98	$15.81	$13.51	$15.36	($0.45)	$15.96	$0.15	$1.38	$7.48
May 15	$2.06	$2.52	$19.08	$14.81	$16.19	$13.91	$15.67	($0.52)	$16.17	$0.08	$1.39	$7.83
June 15	$2.10	$2.69	$19.39	$14.77	$16.72	$13.90	$15.94	($0.78)	$16.54	($0.18)	$1.43	Not available

June Utilization (Northeast): Class I = 34%; Class II = 26%; Class III = 20%; Class IV = 20%.

Class I *= fluid milk;* ***Class II*** *= soft products, cream, and yogurt;* ***Class III*** *= cheese (American, Italian), evaporated and condensed products;* ***Class IV*** *= butter and milk powder.*

*At a milk margin minus feed costs of $8 or less, payments are possible depending on the level of coverage chosen by the dairy producer.

Cheese: Milk is available to cheese plants in desired volumes but all regions note some decline in milk production and components. The most significant impact has been less surplus milk sold below Class. Some sales at $2.00 below Class were made in the Midwest. Cheese sales continue to be good. There is increasing discussion about whether private cheese holdings are nearing a point where end users and cut/wrap operations may slow purchasing.

Dry Products: Low/medium heat nonfat dry milk prices are lower in a weak market. Dry buttermilk prices were steady to higher in the Central and East and lower in the West. Production is light across the country, limited by strong cream demand from frozen dessert manufactures. Dry whole milk spot prices are lower on a quiet market. Central and West dry whey prices are steady to lower, although Northeastern whey prices are mixed. Production is mostly steady across the country in a weakening market.

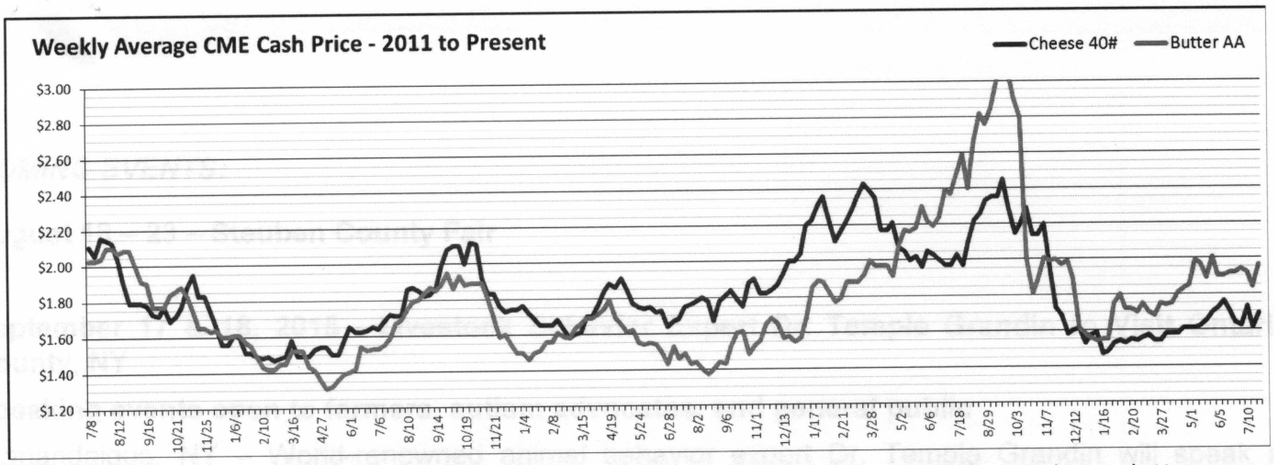
Prices for lactose moved slightly lower. Rennet and acid casein prices did not change. Buyers are hesitant to commit to Q4 contracts in a downward trending market.

Friday CME Cash Prices					
Dates	6/26	7/2	7/10	7/17	7/24
Butter	$1.92	$1.94	$1.92	$1.84	$1.96
Cheese (40# Blocks)	$1.64	$1.62	$1.73	$1.61	$1.69

Butter: Churning is active as demand remains strong throughout the country. Demand is limited in the Northeast, steady in the West and has increased slightly in the Central region. Cream levels have tightened so most manufacturers have decided to sell available cream as opposed to churning to higher multiples. Most manufacturers are reporting comfortable inventory levels.

Fluid Milk: Farm level milk production is steady to lower following seasonal declining patterns in the Midwest and West, but production is holding strong in Florida. Some processers report a decline in protein content and a reduction of cheese yields. Bottling demand is steady to lower at seasonal levels and is expected to increase as schools re-open in a few weeks.

Production: Milk production in the 23 major States during June totaled 16.4 billion pounds, up 0.7 percent from June 2014. May revised production, at 17.2 billion pounds, was up 1.5 percent from May 2014. The May revision represented an increase of 12 million pounds or 0.1 percent from last month's preliminary production estimate. Production per cow in the 23 major States averaged 1,895 pounds for June, no change from the **record high of June 2014. The State series began in 2003.** The number of milk cows on farms in the 23 major States was 8.63 million.



Comments: June milk in the Northeast continued to surpass plant capacity, and some milk was dumped. However, cheese prices are holding up due to fast food sales and the continued use from other end users and cut and wrap operations. Cheese stocks continue to build, but they may have reached a level where demand will soften, and the stock pressure will move prices downward. Milk production growth is continuing its increasingly slow trend upward. Although production was up 1.5% in May, June's increase was a measly 0.7%. This comes from a 0.5% increase in cows and a 0.2% increase in milk per cow. The USDA is still predicting, somewhat optimistically, a 2.3% increase in milk production for next year, although many people speculate it will not follow this pattern. Feed prices are going to average high this fall and winter, making margins lower, and could lead to lower increases in total milk production as producers cut back on feed and animals. (Cropp, Bob. Memo to Dairy-L. July 2015).

Globally, exports are down, and markets are irregular. Problems in Greece, additional challenges in Europe, and weakness in China and East Asia have caused the U.S. dollar to rise against the currencies of other dairy exporters. (Dunn, Jim. Penn State Dairy Outlook. July 2015). As we all have heard, exports are well below last year's level. For butter, they are 74% lower, 10% lower for cheese, and 22% lower for whey. Nonfat dry exports are stagnant with a 1% increase. Exports are not expected to improve any time soon, and for the past year Global Dairy Trade (GDT) prices have fallen – currently, $1.12 per pound of butter, $1.19 per pound of cheddar cheese, and $0.77 per pound of skim milk powder. (Cropp, Bob. Memo to Dairy-L. July 2015).

Estimates show July Class III prices around $16.25, Class IV price near $13.45, down from June's prices of $16.72 and$13.90, respectively. Class III prices are expected to decline to the low to mid-$15's for the remainder of the year, and Class IV prices are looking to be in the low 13's, and below. Milk production levels will have a huge impact on milk prices this coming year, and it could be until the second half of next year before the Class III price returns to the $16's and the Class IV price to the $15's. (Copp, Bob. Memo to Dairy-L. July 2015).

Penn State's measure of income over feed cost (IOFC) rose by 10% in June, as milk prices increased marginally, and feed costs fell. June's feed cost fell 10 cents from May, making June's IOFC $7.35/cow/day. Income over feed cost reflects daily gross milk income less feed costs for an average cow producing 65 pounds of milk/day. (Dunn, Jim. Penn State Dairy Outlook. July 2015).

A Drop In The Bucket

Katelyn Walley-Stoll

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- Milk prices are still falling – Class III to the low $15's and Class IV to the low $13's.
- Exports are down tremendously from this time last year, due to decreased global demand and a strong U.S. dollar.
- June's value of Income Over Feed Cost is $7.35 which shows a slight increase from May, as milk prices increased slightly and feed prices declined...for now.
- Plant production is full, milk is being dumped in some areas, and cheese stocks have probably met their capacity.
- Corn prices are looking high into fall and winter – weather, strong demand, and low stock piles will drive the prices up, lowering dairy margins.
- MPP sign up for 2016 has begun, the deadline is September 30th to enroll.
- Wish there was better news – but watch your margins closely, tighten up your cash flow, and keep working hard to **feed the world** with safe, wholesome dairy products!

COMING EVENTS:

August 18 – 23 – Steuben County Fair

September 17 & 18, 2015 - Livestock Behavior Expert Dr. Temple Grandin to Visit Ontario County, NY

Speaking events open to farmers, autism advocates, and general public

Canandaigua, NY – World-renowned animal behavior expert Dr. Temple Grandin will speak at several locations in Ontario County, NY on September 17 & 18, 2015. An ardent advocate for the humane treatment of animals and one of the most widely-recognized autistic professionals in the country, Grandin is a noted speaker and author of many books including *Humane Livestock Handling* and *Animals Make Us Human*. She is a professor of Animal Science at Colorado State University and also designs livestock systems that more closely match the natural instincts of livestock, reducing stress and unintended injuries.

Temple Grandin will speak at three different events during her visit to the region:

Livestock handling talk and farm walk-through
Thursday, September 17, 2015 - 12 Noon – 3:30 PM
Lawnhurst Farms, LLC, 4124 County Road 5, Stanley, NY
This event is designed for dairy and beef farmers to help them improve livestock handling. There will be time after the program for questions and book signing.
Cost: $25 per person, includes a BBQ Beef lunch. Space is limited & lunch will be guaranteed only for those who pre-register. Please **register by September 10, 2015** at www.nwnyteam.org or by writing out a check payable to CCE and mailing it with names of attendees to CCE of Genesee County, Attn: Cathy Wallace, 420 E Main St. Batavia, NY 14020.

Public lecture
Dr. Temple Grandin: My Life with Autism and the Livestock Industry
Thursday, September 17, 2015 - 7:00 PM
Vandevort Room
Hobart and William Smith Colleges, Geneva, NY
This event is free and open to the public. Dr. Grandin will have time to meet participants and sign copies of her books.
2015 Happiness House Autism Conference "Thinking Across the Spectrum"
Friday, September 18, 2015- -8:30 AM – Keynote address by Dr. Temple Grandin
Crosswinds Wesleyan Church, 3360 Middle Cheshire Road, Canandaigua, NY
A conference on autism for families and professionals presented by Happiness House in Canandaigua.
Conference details available at: www.happinesshouse.org

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TRADING POST:

For Sale: 4 x 4 round bales of mixed hay and wheat straw bound with twine. Hay has been tested. Large quantities available. Please call: 607-535-4903