Pollinator Decline - What Does It Matter and What Can We Do?

by Joanna Voigt

By now you’ve probably read or heard something about the pollinator crisis. From dwindling Monarch butterfly populations whose overwintering numbers this year were the lowest on record, to the alarming effects of Colony Collapse Disorder on honey bee colonies, to massive bumble bee die-offs on the West coast due to pesticide poisoning, news of pollinator peril has been pervasive in recent years.

Habitat loss, increased use of pesticides and other chemicals, and introduced diseases and pests all play a role in pollinator decline. In 2000, the Convention on Biological Diversity declared a “pollinator crisis” and implemented an International Pollinator Initiative aimed at stemming the tide of the decline. Since then, awareness of the crisis has increased but pollinators continue to struggle. And, well it should be.

According to a Food and Agriculture of the United Nations report, “Pollination is a keystone process in both human managed and natural terrestrial ecosystems.

Continued on page 5

Natural Resource Groups Speak out on Water Vision for Ks.

While general spring rains are helping across some of the state, drought conditions are still prevalent. Blowing dust was common in central and western Kansas earlier this spring, due to 3 or 4 years of drought, depending on where you are located. Water planning has once more moved to the front burner for policy makers and planners as the State ponders its water future.

Photo by M. Fund

Sustainability must be the goal of the 50-Year Vision for Water in Kansas. More of the “development at-all-costs” thinking at the expense of conservation and protection is neither sustainable nor acceptable. This was the message of the nine natural resource and environmental groups who gathered in Topeka to deliver comments to the Kansas Water Office and Kansas Department of Agriculture representatives on the Governor’s 50 Year Water Vision on May 13.

“We have over-appropriated water in the state; we built reservoirs without insisting on or supporting upstream land management so now they are silting in. We are removing wildlife habitat, forests, and grasslands that protect water quality and provide biodiversity, and our children and grandchildren will pay the price,” stated Mary Fund, of the Kansas Rural Center, summarizing the group’s comments. “Addressing the problems we have today require that we take a hard look at the way we use the state’s water, how we live, how we produce food, crops and livestock, and what kind of business and industry we pursue.”

Kansas has had a State Water Plan since 1985, stated several of the groups, with programs to provide conservation, management and protection. “It works if funded,” stated Jim Hays of the Nature Conservancy, a sentiment echoed by all present. Continued on page 5
Small Farmer Commentary

From the Dust Bowl to Climate Change: Adapting to Changing Conditions

by Mary Fund

During the 1930’s Dust Bowl days, my grandfather’s farm not only survived, but fared reasonably well. He did so, according to the family stories, by planting more wheat than was the custom in northeast Kansas at that time. He also invested in a threshing machine and did custom threshing for the growing number of local wheat farmers.

In other words, he was an early innovator; he diversified and adapted to changing conditions.

Farmers in general are good at adaptation, at least to short-term challenges. For instance when drought hit my area of northeast Kansas a couple of years ago, farmers again planted more wheat—a crop that had been largely abandoned for more profitable corn and soybeans but is a better dryland crop. The wheat followed failed corn crops cut early for ensilage. They also planted rye as a fall forage or cover crop—mostly for fall grazing due to hay shortages and parched pastures. Their actions had multiple benefits: forage for cattle feed, cover for erosion control, and healthier soil. They adapted to changing conditions.

During the 1980’s farm crisis when land prices dropped and credit dried up (a different kind of drought), KRC worked with many farmers who turned to “low input” farming practices. They turned to legumes for on-farm fertility, crop rotations for weed and pest control, and small grains and legumes for livestock feed, that doubled as erosion control and soil builders.

They sought to reduce their reliance on purchased fertilizers and chemicals and thus their reliance on credit and debt. In doing so, like my grandfather above, they established more diversity and created more resilient farms.

Today agriculture – and the world overall – faces a longer-term challenge than the vagaries of land values, crop prices and credit, or cyclical drought or floods. Within the last few weeks, three major reports detailing the realities and challenges of climate change were released: the United Nations Intergovernmental Panel on Climate Change (IPCC) “Climate Change 2014: Impacts, Adaptation and Vulnerability”, the CNA Military Board’s “National Security and the Accelerating Risks of Climate Change”, and the Third National Climate Assessment “Climate Change Impacts in the United States.”

(See pages 3 and 15 in this issue for more.)

Hundreds of climate change scientists and technical experts developed these reports. All of the reports agree that climate change is here and now, and that agriculture is already being impacted. In particular the National Climate Assessment makes it clear that agriculture is already experiencing disruptions: drought of longer durations in some areas and more extremes of rainfall in others, causing soil and water degradation and loss of crops and damage to soil resources.

While the reports state that the negative impacts of climate change—melting polar ice and glaciers, rising sea levels, more droughts, heat waves, and floods, increased disruption of food production, displacement of populations— are likely to get worse unless we reduce greenhouse gas emissions, the reports also include steps we can take to adapt or mitigate the negative impacts.

The good news is that for agriculture, many of these steps are familiar, and they all point to establishing more diversity on farms and building more resilience—things we have done in the past and are in the process of now.       Contd. on page 3
Small Farmer Commentary

In late March, the United Nations Intergovernmental Panel on Climate Change (IPCC) released its latest report detailing the impacts to date of climate change, the future risks, and the opportunities to address or mitigate these risks. Every continent and every ocean is already affected, the report states, pointing to melting ice caps, collapsing Arctic sea ice, intensifying heat waves and heavy rains globally, rising coastal sea waters, and sea life migration. Coastal communities are at risk as is the world’s food supply—especially in the world’s poorest nations.

Without curbs on greenhouse emissions, the report warned, the problem will get substantially worse, and make adapting to the risks harder. The report includes a chapter on agriculture, forestry and land use. Land use management changes rate high on the recommendations for adapting to climate change.

Soil carbon sequestration through reduced tillage and cover crops and more grassland and forests not less, not only reduce greenhouse gas emissions and sequester carbon in the soil, but they are good adaptive strategies for cyclical drought and build soil health.

As reported in the IPCC chapter on agriculture, forestry and land use, (see page 3 in this newsletter), land management changes in agriculture and forestry rate high in helping mitigate carbon emissions. Soil carbon sequestration through reduced tillage and cover crops and more grassland and forests not less, not only reduce greenhouse gas emissions and sequester carbon in the soil, but they are good adaptive strategies for cyclical drought and build soil health.

A 2013 report from USDA, “Climate Change and Agriculture in the United States: Effects and Adaptation” acknowledged that sustainable agriculture practices and systems such as “diversifying crop rotations, integrating livestock with crop production systems, improving soil quality, minimizing off-farm flow of nutrients and pesticides” are actions that may improve agriculture’s capacity to diminish the effects of climate change on productivity.

It is all too true that the news about climate change is grim. As people, we don’t like grim. So we shut our ears. We prefer to listen to those who don’t ask us to change, who promote the status quo.

My grandfather could have watched his farm dry up. Many of his neighbors moved away becoming part of the exodus to points west. But he adapted. He saw opportunity in change and he made the best of it.

The farmers KRC works with are doing the same: looking for opportunities and workable solutions to meet challenges today and in the future. True, no one has a crystal ball to predict the future or to know what will work or not. Agriculture is just one part of climate change’s many threats. And addressing climate change will require far more of us than changing light bulbs, driving hybrid cars, changing to wind and solar power sources, or planting cover crops and reducing tillage. But increasing diversity and building resilience in agriculture and our food system is one place we can start.

News Briefs

IPCC Climate Change Report: Agriculture Can Help Mitigate

In late March, the United Nations Intergovernmental Panel on Climate Change (IPCC) released its latest report detailing the impacts to date of climate change, the future risks, and the opportunities to address or mitigate these risks. Every continent and every ocean is already affected, the report states, pointing to melting ice caps, collapsing Arctic sea ice, intensifying heat waves and heavy rains globally, rising coastal sea waters, and sea life migration. Coastal communities are at risk as is the world’s food supply—especially in the world’s poorest nations.

Without curbs on greenhouse emissions, the report warned, the problem will get substantially worse, and make adapting to the risks harder. The report includes a chapter on agriculture, forestry and land use. Land use management changes rate high in helping mitigate carbon emissions. Soil carbon sequestration through reduced tillage and cover crops and more grassland and forests not less, not only reduce greenhouse gas emissions and sequester carbon in the soil, but they are good adaptive strategies for cyclical drought and build soil health.

The authors also recommend use of products with lower emissions such as use of more wood products, as they emit less CO2 than cement. Reducing agriculture’s reliance on fossil fuels—through less tillage or reduced chemical use—will also use less energy and emit less CO2.

And finally, pursuing diets with less food animal products, while controversial, can help reduce agriculture’s carbon footprint, especially if more animals are raised outside feedlots. Since livestock production is a major contributor to agriculture’s emissions, the authors argue, it needs to be addressed.

Titled, “Climate Change 2014: Impacts, Adaptation, and Vulnerability”, it is the work of hundreds of scientists and reviewers, and is the first such report since its Nobel Peace Prize winning predecessor in 2007.

While this report is more sobering than the 2007 report, it also emphasizes that there is evidence that governments and businesses are beginning to make plans to adapt to specific local risks. For a copy or summary of the report, go to http://ipcc-wg2.gov/AR5/.

Rural Papers, April-May-June 2014
The Kansas Legislature may have gone home, but the political season is just beginning. Political fund raising and those interminable political ads will soon take over the airwaves for the 2014 election. Debate, or what passes for “debate”, will heat up on a range of topics—none more front and center than the grand economic experiment the state embarked on that started with Governor Brownback’s 2012 income tax cuts. From the editorial pages of the Scott County Recorder to the Wall Street Journal and Chicago Tribune, the whole country is watching to see how this ideological gamble plays out.

In 2012, Governor Brownback signed into law one of the largest tax cuts ever enacted by a state in a single year, lowering the top income tax rate on about one-fourth and eliminating income taxes entirely on about 200,000 businesses. Balancing the state budget to meet these reduced revenues has meant program and service cuts. Nothing remains untouched: education funding, health care, poverty and social welfare programs, transportation, conservation.

While the Governor and his supporters claim the tax cuts have already created new jobs and businesses, and contributed to a low unemployment rate, other analysis begs to differ.

According to a report from the Center on Budget and Policy Priorities issued in March, “Kansas is a cautionary tale, not a model” for other states. The report claims that the tax cuts begun in 2012 have damaged state programs, hurt the poor, and have not brought the promised economic growth to the state.

“The tax cuts deliver lopsided benefits to the wealthy,” claims the report, pointing out that the highest income one percent saw an average tax cut of 2% while the middle fifth of households saw a 0.5% tax cut. The 2012 tax cut actually raised taxes on the lowest income households (by eliminating some tax credits), and shifted taxes away from the wealthy and onto middle and low income Kansans. Others also argue that income tax cuts will force the state to increase its dependence on sales tax and property taxes, which will affect small property owners and low to middle income citizens more than higher income citizens.

The Center on Budget and Policy Priorities also states there is no evidence that Kansas is showing exceptional business growth. In fact, job growth in Kansas lags behind the U.S. average, and has not changed from pre-tax cut days.

The State Legislature, believing the claims that tax cuts would lead to investment in economic growth and thus generate revenues, passed a FY 2015 budget based on upbeat predictions but even this required cuts to balance the budget. The state highway fund was tapped again to pay for public school transportation costs. The number of state employees was cut by 71 in 2014, and 187 more will be eliminated in 2015. Education from K-12 and higher continues to be under funded. State Water Plan funding continues to be diverted elsewhere while state water supplies are increasingly threatened by drought or siltation of major public water supply reservoirs.

While the Governor claims funding for schools K-12 has actually increased, school districts across the state are facing draconian cuts and argue that state aid per pupil has actually dropped. Continued on page 13
Water Vision...
Continued from page 1

It has not been funded adequately, the group claims, and has in fact been robbed for other uses in recent years. A wide range of stakeholders worked out a mix of user fees, Economic Development Initiative Funds (EDIF) and state general funds in 1989. Kansas law states that $6 million from the State General Fund is to be transferred to the State Water Fund each year, as well as $2 million from EDIF funds, but these funds have been repeatedly diverted to other state purposes. Without dedicated funding, the new plan will go nowhere, claimed the resource and environmental groups.

Primary attention in the vision planning discussions so far, the group claimed, has been on increasing supply to make up for the declining Ogallala Aquifer, which feeds irrigation in the western part of the state, and solving the problems of sedimentation in the state’s major reservoirs which provide water supply for population centers. Providing water for economic needs is critical, but conservation and stewardship of the water resource, as well as of our soil, wildlife and aquatic resources, the groups argued, is equally critical to our own well-being.

“Water is not just for human use, or just a supply issue,” stated Sharon Ashworth, Kansas Natural Resource Council. “It supports wildlife habitat, aquatic life and our entire ecosystem, and when we protect the ecosystem we protect ourselves.”

Ashworth and others pointed to Cheyenne Bottoms, Quivira Wildlife Refuge and other natural wetlands as critical parts of the Central Flyway that are of international importance, and as significant for water quality for healthy populations of aquatic life.

Long term economic health depends on how well we protect our natural resources.

The groups represented included the Kansas Natural Resource Council, Kansas Chapter of the Sierra Club, Audubon of Kansas, Kansas Wildlife Federation, Friends of the KAW, The Nature Conservancy-Kansas Chapter, Climate and Energy Project, Kansas Farmers Union, and the Kansas Rural Center.

In addition to the call for dedicated funding for water programs, the group’s recommendations to the KWO and KDA called on state planners to:

* Recognize that protection of the natural resource base is as important if not more important than economic growth; long term economic health depends on how well we protect our natural resources.
* Balance water use with conservation, and approach any interbasin transfers of water with extreme caution.
* Reduce consumption to sustainable yields across the state.

* Elevate water quality to be a strong part of the vision not just implied as being part of supply issues.
* Consider all the evidence of changing climate patterns as part of any 50-year plan.
* Coordinate with state energy planning to promote less water intensive energy sources. Renewable energy sources like solar and wind use less water than the traditional fossil fuel sources.
* and Increase public education related to water issues to raise awareness and understanding of problems and solutions.

The KWO and KDA are currently writing the first draft of the 50-Year Vision and Plan based on input from stakeholders from around the state. The draft will be distributed to the public in July for another round of input and comments, before being finalized in November for the Governor’s Annual on Water and the Future of Kansas. The above environmental and natural resource groups will continue to provide feedback and recommendations.
Over one-hundred people came from all over Kansas, and even Iowa, to attend a full-day workshop at Juniper Hill Farms, north of Lawrence, Kansas, to learn how to grow vegetables and fruits in Kansas climates under the protection of plastic-covered structures, such as low and high poly-tunnels.

The event was the first in a series of four statewide workshops being coordinated by the KRC as part of its “Tunnel to Table” project. The spring workshop and three upcoming workshops offer both beginning and advanced information on vegetable and fruit production under plastic-covered structures. Workshops include presentations, exhibitors, educational materials, grower-to-grower information, and hands-on learning experiences.

Participants in the April workshop, ranged from seasoned farmers to gardeners seeking an entry point to vegetable and fruit production. Despite vastly different backgrounds, participants overwhelmingly reported leaving the event more knowledgeable than they came. A key reason for their positive feedback, perhaps, is that the Tunnel to Table workshop series is not designed to sell anyone on the idea that tunnels are an easy or silver-bullet solution to their growing challenges.

"Farms are all unique, and they require unique solutions to growing challenges," explains Cole Cottin, KRC Program Coordinator and owner/operator of MAD Farm. “Our workshops and materials offer a comprehensive yet critical perspective on the reality of tunnel production in Kansas, and what it may or may not have to offer different growers. There’s no point avoiding the reality that, for some, tunnels may be costly, difficult to manage, and vulnerable to extreme weather - they don’t work for everyone. But, in the proper situation and with the right grower, polytunnels can be a profitable tool and asset on Kansas farms.”

The first Tunnel to Table event kicked off with Greg Garbos, owner of Four Season Tools and seasoned vegetable grower at City Bitty Urban Farm, Kansas City, Missouri. Greg began his career as an engineer for General Motors.

Through a series of events, including a conversation with small farm icon, Eliot Coleman, Greg re-directed his engineering skills to help small farmers, creating state-of-the-art movable high tunnels with superior structural support that can handle Kansas’ climatic extremes. In addition he creates a number of other tools that can increase efficiency and maximize profit on farms.

Continued on page 7
Local Food News

Tunnel Workshops...
Continued from page 6

Garbos’ approach is scale-sensitive, and he coaches growers on choosing the right tool for them to ensure a return on their investment.

Following Garbos’ overview of the broad range of polytunnel structure options, workshop participants turned their attention to interactive conversations with a panel of experienced producers. During panel discussions, each of four growers revealed how they utilize high and low tunnels profitably on their full-time produce farms.

Where one grower found it most lucrative to focus on extended season tomato production as his primary tunnel crop, another grower emphasized her preference for focusing on fall, winter, and spring production of cool season crops while seeding summer tunnels in soil health-building cover crops instead. Beyond tomatoes and greens, panelists spoke of successes and current trials of various raspberry, sweet corn, and other warm season crop varieties.

One farmer pointed to agritourism as a lucrative venture - he and his wife have cultivated a tunnel-sheltered “Butterfly Bio-Villa,” offering community members and school children educational opportunities while increasing the visibility of their farm stand and farm products. The value in diversity of income streams was a theme of panel discussions, where farmers exemplified that there is no single “best” way to utilize polytunnel structures.

Workshop farm-host and owner/operator of Juniper Hill Farms, Scott Thellman, provided an in-depth look at his farm finances, record keeping, and financial analysis tools. Scott has taken what he learned in his studies of Agricultural Business at Iowa State University to create detailed crop enterprise budgets that help him ensure his farm receives strong returns on every investment – including low tunnels, high tunnels and, as he scales-up, perhaps eventually multi-bay polytunnels that can cost-effectively span larger acreage.

Scott’s enterprise budgets are detailed - for example, listing each and every variety of hybrid and heirloom tomatoes grown in his tunnels, setting an income goal for them, and tracking the yield and income off each type of tomato sold. He says the process is time intensive, but it pays off by revealing exactly which varieties meet his profitability requirements and which do not. If a tomato does not meet his production goals, he will not grow it the following year and will increase production of those varieties that do perform. Scott’s strict financial tracking and analysis reflects his commitment to operating a farm that thrives as a business, providing a living wage to its employees while continuing to grow and expand into new markets and methods of production.

Workshop participants also toured Juniper Hill Farms’ tunnels, which provided much of the produce for their lunch. There they interacted with many of the other tools and equipment used to manage the farm, and received hands-on experience constructing low tunnel structures. Participants used a pipe-bender to hand-bend 10-foot lengths of half-inch metal conduit, creating four foot wide by three-foot tall hoops. Spaced every five feet, 20 of these hoops created a 100-foot long low tunnel, which will be covered with plastic so Juniper Hill Farms could get a jump-start on summer squash production this year. After the temperature stabilizes, the plastic will be replaced with ‘row cover’ – a lightweight polycotton fabric which will act as an insect barrier excluding squash bugs and squash vine borers until the plants are well established and flowering.

Those who missed the workshop can visit KRC’s website to view content from workshop presentations http://kansasruralcenter.org/t2t/.

Registration for fall “Tunnel to Table” workshops opens this summer. The fall workshops will take place on three Sunday afternoons in Atwood (August 31), Winfield (September 14), and in Clay Center (October 5). Fall workshop participants will be eligible to apply to receive free low tunnel infrastructure for their farms. Women and minorities are encouraged to register and apply.

In addition to the workshop series, later this year the Kansas Rural Center will publish Tunnel to Table education materials, including a Resource Guide, Decision Making Tool, and virtual workshop to support beginning and advanced polytunnel production in Kansas.

The Tunnel to Table Project is funded by grants from the Kansas Department of Agriculture Specialty Crop Grant Program, and Farm Aid. For more information, visit http://kansasruralcenter.org/t2t/ or contact Cole Cottin at ccottin@kansusruralcenter.org or (785) 992-4572.
Pollinator Decline...

Contd. from pg. 1

New threats continue to plague pollinators, causing alarm and keeping pollinator decline a recurring news headline. And, well it should be. According to a Food and Agriculture of the United Nations report, “Pollination is a keystone process in both human managed and natural terrestrial ecosystems. It is critical for food production and human livelihoods, and directly links wild ecosystems with agricultural production systems.” Without pollinators, our food supply would look dramatically different.

According to Claire Kremen, international conservation biologist and professor at University of California, Berkeley, in an article on EarthSky, “You can thank a pollinator for about one out of every three mouthfuls [of food] that you take every day.”

In the absence of pollination, many plants cease to produce the fruits, vegetables, berries, nuts and seeds we rely on for food. Apples, apricots, avocados, lima beans, blackberries, blueberries, cabbage, canola, citrus, cotton, cucumber, eggplant, kiwi, mango, melons, peaches, pears, peppers, pumpkins, strawberries, sunflowers, squash, and watermelon are all pollinator-dependent crops.

Even crops that don’t require pollination are often found to have higher yields when visited by bees or other pollinators. Foods that fall into this category include tomatoes, coffee, and soybeans, to name a few. Studies show that pollination results in higher quality produce, and that pollination may protect crops from pests (FAO 2009).

There are over 100,000 species of invertebrate pollinators including bees, butterflies, moths, flies, and beetles, and over 1000 species of vertebrate pollinators including birds, mammals, and reptiles. Insects pollinate 75% of human food crops, worldwide, contributing $210 billion in agricultural earnings, according to Richard Conniff in an article in Yale Environment 360. In the US, European honey bees, Apis mellifera, are the primary provider of pollination services for agriculture, with an economic value of $17 billion per year.

Honey bees are not native to North America, but were introduced for honey production in the 1600s. Although honey bees are domesticated, their proclivity for swarming resulted in a robust wild population of Apis mellifera that thrived in the US until the combined effects of tracheal and Varroa mites effectively decimated their populations in the 1990s.

In 2006, a mysterious affliction, later termed Colony Collapse Disorder (CCD), began sweeping through the nation’s domesticated honey bee populations. Ultimately, CCD wiped out nearly one-third of all managed hives, leaving a distinct shortage of pollinators to carry out the pollination services required for crop production, and prompting a closer look at the potential of native pollinators to provide pollination services.

Native pollinators can be highly efficient and have some advantages over honey bees, such as a wider range of foraging behaviors and greater latitude of climatic conditions in which they will forage. However, native bees face their own set of struggles to survive, with many species’ numbers having been on the decline for many decades. A study of four North American bumble bee species revealed that their populations had declined by 96% over the past century.

Presently, native pollinators contribute roughly $3 billion to pollination of human food crops in...
Pollinators...
Continued from page 8

the US, according to the Xerces Society for Invertebrate Conservation, and many researchers feel that this number could and should increase significantly. Efforts to attract and promote native pollinators in agricultural settings are on the rise, worldwide. In addition to helping ensure sufficient pollination of human food crops, there are other important reasons to protect and encourage native pollinator populations.

Pollinators play a vital role in preserving biodiversity. Biodiversity is critical to functioning ecosystems, which provide services that regulate the health of our land and water, and the air we breathe. Ecosystem services include moderation of weather extremes and their impacts, mitigation of drought and floods, nutrient cycling, erosion protection, detoxification, pest control, soil health preservation, climate stability, purification of water and air, regulation of disease carrying organisms, and pollination of crops and natural vegetation.

Pollinators are considered a “keystone species,” meaning they have a disproportionately large impact on biodiversity and ecosystem function in most terrestrial ecosystems, compared to other species. In a given ecosystem, as a keystone species fares, so fares the rest of the ecosystem.

Because the majority of the earth’s flowering plants require pollination in order to produce seeds, entire ecosystems rely on pollinators and would collapse without their services. In other words, biodiversity and ecosystem function are inextricably linked to pollinators. The dire shape of pollinators is a strong indicator that all is not well in the environment, and should sound as a warning to right the course.

“Pollinators are a keystone species.... as a keystone species fares, so fares the rest of the ecosystem.”

Agricultural activities play a major role in pollinator decline. Loss of habitat due to large-scale conversion of natural areas to cropland and pastures is the primary culprit in pollinator population decline and has caused dramatic declines in plant, animal, and other insect diversity, as well. In Kansas, 90% of the state’s 52 million acres have been converted to farmland, with 57% in monoculture crops and 29% in pastures, resulting in a homogenized landscape devoid of habitat for pollinators and other wildlife.

Pesticides and other chemicals used in agriculture also play a significant role in declining pollinator populations. Neonicotinoids are a class of systemic insecticides, introduced to the market in the 1990s. By 2005, neonicotinoids had gained 16% of the market share, making them the fastest-growing class of insecticides in the history of synthetic insecticides.

Neonicotinoids target sucking insects such as fleas and aphids, and are applied as foliar sprays, seed coatings and soil drenches. They have been shown to cause impaired communication, disorientation, decreased longevity, suppressed immunity and disruption of brood cycles in honey bees (PANNA 2012). Misuse of Safari, a neonicotinoid insecticide was responsible for the massive bumble bee (and other insects) die off in Wilsonville, Oregon, in June 2013.

Neonicotinoids are highly persistent and have been shown to accumulate in the environment, and have been found in beeswax, pollen, honey and bee bodies. They are approved for use on stone fruits, nuts, canola, sunflowers and corn, as well as for gardens and lawns and as a topical flea treatment for pets.

The role of farmers and ranchers in pollinator conservation. While agricultural activities can be implicated in the decline of pollinator populations, they also stand to play a significant role in their recovery.

A diversified, ecologically based farm system that includes practices such as intercropping, agroforestry, insectary strips, cover crops, fallow fields, border planting, riparian buffers, and woodlots, meadows and forests, can greatly benefit pollinators by providing natural habitat areas and reducing the use of harmful pesticides and other chemicals.

A study by Claire Kremen and Albie Miles from the University of California, Berkeley, focused on ecosystem services in biologically diversified versus conventional farming systems. They showed that, “As with other components of biodiversity, pollinator communities were richer and more

Continued on page 10
abundant with agri-environment management schemes (primarily organic).”

A number of recent studies have shown that organic management has a significant impact on pollinator abundance and species richness. One study of 42 wheat fields in Germany demonstrated that organic management increased pollinator richness by 60% and abundance by 130 to 136%.

Increasing the proportion of organic fields in the landscape from 5 to 20% further increased pollinator richness and abundance by over 60% on both organic and conventional farm fields. This indicates that abundance of floral-rich habitat is the primary driver of pollinator richness, and that planting “flower-rich hedgerows, grassy borders, or in-field insectary strips” is an effective management technique for increasing pollinator populations and diversity (Kremen 2012).

Farmers and ranchers are in the unique position of having the potential to substantially impact the future of pollinators. Because of the enormous amount of land that is devoted to agricultural uses, changes away from agricultural practices that harm pollinators and towards agricultural practices that benefit pollinators is the most critical piece of pollinator conservation puzzle.

With a little help from the Kansas Rural Center, vision became reality this spring for eight aspiring beekeepers, through a grant from the Elizabeth Schultz Environmental Fund, administered by the Douglas County Community Foundation. Eight candidates were selected from 89 applicants to receive a bee hive and basic beekeeping equipment. They also received membership in the Northeastern Kansas Beekeepers’ Association, beginning beekeeping classes, a mentor from the local beekeeping community, and a package of bees.

The new beekeepers received unassembled hives and basic beekeeping equipment in mid-March, and were paired with mentors to help guide them through their first year of beekeeping.

“Pollinator Decline” Works Cited:

Food and Agriculture Organization of the United Nations (FAO). 2009. Bees and their role in forest livelihoods: A guide to the services provided by bees and the sustainable harvesting, processing and marketing of their products. FAO.


Among the first tasks for the new beekeepers was assembling the hives, choosing an appropriate location for their bees, and preparing for the arrival of the packages. In addition to support from their mentors, the new beekeepers received nine hours of instruction at North-eastern Kansas Beginning Beekeepers’ Association (NEKBA) beginning beekeeping classes.

In late April, eight packages of Italian honey bees, each containing 10,000 – 12,000 worker bees and a mated queen, arrived in Douglas County and were quickly distributed to the new beekeepers for installation in their hives. Initial reports from the new beekeepers indicate that the bees are off to a great start, building comb and bringing in pollen and nectar.

The new beekeepers represent a wide range of ages, occupations and specific reasons for wanting to get into beekeeping.

Michael Fraley is on the board of the Jayhawk Audubon Society, and he and his wife have been moving steadily towards a self-sustaining lifestyle for a number of years. They feel that keeping bees is an important part of this lifestyle.

Leslie Grey is a sophomore at Lawrence High School and her interest in bees was piqued in grade school by a friend who kept bees, which Leslie found intriguing. With help from her dad, Dave, Leslie will keep the bees at their house in rural Douglas County, where they have a large garden and have recently started raising goats. Contd. on page 11.
Brett LaRue is a Deputy Sheriff and his wife, Oksana, is an Admissions Assistant at Baker University. They became motivated to do their part to take care of the environment after having a son four years ago. Oksana has an extensive garden and they plan to plant an orchard on their land in rural Douglas County. Brett is interested in agriculture and feels that keeping bees is a good first step.

Sue McGee is a homemaker and avid gardener. She and her husband, Jim, a retired firefighter, sell produce at the Lawrence Farmers Market and have started an orchard on their 10-acre property outside of Eudora. They have always loved bees and feel they have a great environment for them.

Scott Seratte is a firefighter/EMT for Lawrence/Douglas County. He has been interested in bees since he was a kid and hopes to help reverse the declining bee populations by getting involved in beekeeping.

Matt Stephens and Melissa Freiburger have strong agricultural roots – Matt’s grandfather was a beekeeper and Melissa’s family are dairy farmers. Matt is an accountant and Melissa is a Farm to Preschool educator. They have an urban farm and are highly interested in passing on knowledge and passion about local and sustainable food systems, which they feel bees contribute significantly to.

The mentors for the new beekeepers are Richard Bean, Robert Burns, Pam Ferguson, Greg Hazen, and Dale Hofer.

"WOO HOOO!! I can't tell you how excited we are! I have been eating, sleeping, and dreaming bees and you guys have just made our dreams a reality!" Brett Larue after he’d been selected for the project. Photo by J. Voigt
Regional Farm-to-Fork Summits Focus on Farm and Food policy

by Natalie Fullerton

The Kansas Rural Center is hitting the road this spring and early summer to host four regional Farm-to-Fork Summits across the state in rural communities. These summits will open up dialogue about the current environment and policies around Kansas farms, food, and community health.

Participants’ at all regional summits have the opportunity to participate in that dialogue and connect with others who share similar interests or concerns for their communities. Specific policies that can support our state’s farmers that help make healthful foods – especially fruits and vegetables – the easy, accessible, affordable choice for all Kansans will be presented and participants will have the opportunity to voice feedback on several of those different policy ideas that could help advance the vision desired for the farm and food future.

The first summit was held in Greensburg, Kansas April 29 which focused on community food, appropriations, and water policy. A morning panel helped tell the story of the Southwest Kansas food system and community health to set the stage for the afternoon roundtable discussions around specific policies. Those on the panel included Mitzi Hesser, Kiowa County Health Director; Stacy Barnes, Greensburg Tourism; Andi Dale, Dale Family Farms; Mary Fund, Kansas Rural Center; Pam Paulsen, Reno County Horticulture Extension Agent; and Ron Hirst, Quest Entrepreneurship Center.

On the forefront of the panel discussion was economic development and water use. Ron Hirst offered “If 100 families would spend $1,000 per year on local food, we’d have $29,000 extra in that community. Enough to create another job.”

However, water is a rising concern that is impacting even small scale production like community gardens. Tom Carr, a summit participant from Medicine Lodge, said “So many people who planted gardens in 2013 won’t do it in 2014 because they can’t afford the water bill.” This is a case where local policy should be adjusted to accommodate basic food production needs.

The afternoon opened with Greensburg Mayor, Bob Dixon engaging summit participants in the story of Greensburg; how communities can be empowered to work together for their future generations. Mayor Dixon stated, “We’re not in the middle of nowhere, we’re in the middle of everywhere - the world is looking at Kansas for answers,” and we’re poised to lead.” This sentiment echoed into the afternoon roundtables discussing the opportunity for communities to address local and state policies around education, conservation, and resources of water, community food (such as farmers markets and community gardens, and appropriations.

Continued on page 13
Revenue Uncertainties...
Continued from page 4
Use of all state and local aid available as a means to claim higher state aid per pupil means funds that do not directly benefit classrooms are being counted and thus “artificially” raises the State aid per pupil amount. While other states are beginning to restore funding cuts to education they made with the 2008 recession, Kansas continues at about 17 percent below pre-recession levels.

As the revenues fall further behind needs, the Legislature and Governor may have to impose even stricter cuts to balance the budget in 2015 and beyond, or reinstate some taxes. The non-partisan State Legislative Research Department estimates that the cumulative revenue loss will exceed $5 billion by 2019.

Kansas is clearly in uncharted waters with the future of the state and the well-being of its citizens at risk.

Contact Mary Fund at mfund@kansasruralcenter.org

Highlights of Session: The Good, the Bad and the Ugly
by Mary Fund & Paul Johnson

As if playing Russian Roulette with the state budget was not enough, the 2014 session was rife with behind closed doors political gamesmanship that shut out citizen involvement. A number of bills were passed without hearings or without full debate by being tacked onto other bills at the last minute or by procedural maneuvering called “gut and go”.

This tactic was used to keep the repeal of the renewable portfolio standards bill alive and moving through the system when committee votes were not there to pass it.

Another example was an agricultural sales tax exemption that exempted special animal production industries from paying sales tax for projects over $50,000 on purchase of materials, machinery and equipment for constructing, reconstructing, enlarging or remodeling the business. This never received debate in the House, but was passed and signed into law. This new law will be used to expand or recruit mega dairies or hog farms, while smaller livestock farms pay full price.

Here is a short list of other legislative issues followed by KRC this session and reported on in our Weekly E-Update “Policy Watch” online:

Energy. The battle over repealing the Renewable Energy Portfolio standards was fought six times in the Kansas House but ended with a 60-63 vote to retain the RPS. But the deep pockets of the Kansas Chamber of Commerce and Americans for Prosperity will keep this battle going during the political campaigns this year. Many lawmakers who stood in support of a clean, renewable energy future for Kansas will be targeted.

Kansas also passed HB 2636 that allows the state to establish separate performance standards for carbon dioxide emissions from coal-fired and natural gas plants. This is intended to thwart the new federal regulations on power plants announced by the EPA on June 2.

This year KRC and their partners will help develop the Statewide Farm-to-Fork Assessment and Policy Recommendations. Dialogue at the summits will help identify the recommendations detailed in the plan which will be used as a tool to help identify specific barriers, opportunities and policies needed to advance the farm-to-fork vision identified by state, regional, and local grassroots constituents working in all realms of the food system.

Contact Natalie Fullerton for more information at nfullerton@kansasruralcenter.org

Farm to Fork Summits...
Continued from page 12

Another summit was held in Iola, Kansas, (as this went to press) on May 29, focusing on food policy councils and other community food policies. This summits major theme was food policy councils and other community food policies.

North Central and Northwest regional summits will be held in Concordia on June 24 at the American Legion hall, 506 Washington Street, and Colby June 25 at the Colby Community Building basement, 285 E. 5th Street.

The meetings are part of the KRC’s “Community Food Solutions for a Healthier Kansas” initiative that seeks to advance the farm-to-fork food system across the state during the next three years.

Contact Natalie Fullerton for more information at nfullerton@kansasruralcenter.org
Survey Shows Organic Farmers Pay the Price for GMO Contamination

Food & Water Watch in partnership with the Organic Farmers’ Agency for Relationship Marketing (OFARM) released survey results in early March that clearly show contamination from GMO crops is happening and it’s non-GMO farmers who are paying the price.

The survey of farmers across 17 states, but primarily in the Midwest, is an effort to fill the data gap that was used to justify an inadequate policy recommendation by the USDA Advisory Committee on Biotechnology and 21st Century Agriculture (AC21). Heavily weighted with biotech proponents, the committee gathered for a series of meetings in 2011 and 2012 to establish a protocol for coexistence and to design a compensation mechanism for farmers who are economically harmed by contamination from GMO crops.

Unfortunately, the committee was unable to estimate the costs associated with GMO presence on non-GMO and organic farms due to a lack of data. Their final suggestion for a compensation mechanism was a form of crop insurance that included, in one proposal, a premium to be paid by producers of non-GMO crops.

“If USDA really wanted to know if contamination was happening, all they had to do was ask organic grain producers who take great pains to keep their crops from being contaminated,” said Wenonah Hauter, executive director of Food & Water Watch.

“Now USDA can no longer claim ignorance about this problem.”

The survey results reveal that the risks and the effects of GMO contamination have unfairly burdened organic and non-GMO farmers with extra work, longer hours and financial insecurity, which has led to a general skepticism of coexistence amongst the organic community. Some even expressed the feeling that their chosen method of production is being seriously threatened. Meanwhile, GMO growers are not specifically required to mitigate the risk of contamination.

Many of the producers who responded use the marketing assistance services of the OFARM member co-ops. “To try to avoid contamination, our member producers follow the expensive requirements of the USDA organic standards and take additional measures designed by OFARM,” said Oren Holle, a diversified organic grain and livestock farmer from Bremen, Kansas, and the President of OFARM. “But far too frequently, they still have to deal with costly rejections due to GMO contamination.”

Survey highlights include:
• Nearly half of respondents are skeptical that GMO and non-GMO crop production can coexist.
• Over two-thirds do not think good stewardship alone is enough to protect organic and non-GMO farmers from contamination.
• Five out of six responding farmers are concerned about GMO contamination impacting their farm, with 60 percent saying they are extremely concerned.
• One out of three responding farmers have dealt with GMO contamination on their farm. Of those contaminated farmers, over half have been rejected by their buyers for that reason. They reported a median cost of a rejected semi load (approximately 1,000 bushels) of $4,500.

• Nearly half of responding farmers would not choose to purchase crop insurance to cover losses associated with GMO contamination. And of those who would purchase insurance, three out of four reported that GMO patent holders, GMO users or both of those entities should bear the liability burden for any economic loss associated with GMO contamination.

“The USDA’s focus on coexistence and crop insurance is misplaced,” said Hauter. “The Department must recognize the harm that is already being done to organic and non-GMO farmers and put the responsibility squarely where it belongs – with the biotech companies.”

The Organic Farmers’ Agency for Relationship Marketing, Inc. (OFARM) is a farmer cooperative incorporated in the State of Minnesota under the Capper-Volstead Act as a marketing agency in common. It has six organic farmer cooperatives with organic grain and livestock producers in 18 states, from Montana to Texas to Kentucky and Ohio.

An issue brief on the survey results can be found at http://www.foodandwaterwatch.org/briefs/organic-farmers-pay-the-price-for-contamination/.

(From Food and Water Watch News Release at www.foodandwaterwatch.org)
**News Briefs**

The Military and Climate Change: National Security Risks

In May, a report released by the CNA military Advisory Board U.S. echoed the IPCC concerns (see page 3), but added the global instability created by impacted water and food supplies, or climate related crises (flood, hurricanes, fires, etc.) resulting in refugees, and displacement of large numbers of people.

Whereas an initial report by the same entity in 2007 described projected climate change as a “threat multiplier,” the new report -- National Security and the Accelerating Risks of Climate Change -- “focuses on the new vulnerabilities created and tensions amplified due to climate change, which it deems a catalyst for conflict.”

Areas of focus include how observed climate impacts such as prolonged drought and flooding impact stability and create conflict – at the same time that decentralized power structures upend and deepen vulnerabilities in Africa, the Middle East and Asia.

The report also examines domestic vulnerabilities such as military bases flooding due to rising seas and infrastructure damaged by heat and other climate-driven weather extremes. These and other stressors, the MAB writes, could compromise troop readiness and strain base resilience.

“It is not possible to discuss the future of national and international security without addressing climate change,” commented General Hoffman, a member of the Military Advisory Board. “Food shortages, droughts, floods – all directly tied to climate change will be catalysts for conflict.”

See more at: http://www.cna.org/reports/accelerating-risks.

---

New Climate Report: Impacts in the U.S.

In early May the White House released the third National Climate Assessment “Climate Change Impacts in the United States.” The report breaks down the impacts by region and sector including agriculture and forestry.

The report concludes that climate disruptions to agricultural production have increased over the past forty years, and are projected to increase over the next few decades. It makes it clear that agriculture is already experiencing longer drought periods, more extreme rainfall events, and heat waves, all of which negatively impact soil and water resources and productivity.

The report predicts that regions will experience declines in crop and livestock production from the increased stress due to weeds, pests and other climate induced stresses. Degradation of soil and water resources will increase due to extremes of precipitation unless conservation measures are implemented.

Forests vulnerability due to ecosystem changes and tree mortality through fire, insects, drought and disease is also increasing. Forests are important carbon sinks. U.S. Forests currently absorb and store the equivalent of about 16 percent of all carbon dioxide (CO2) emitted by fossil fuel burning in the U.S.

Agriculture has adapted some already, but increased innovation will be needed to ensure adaptation of agriculture and the related socio-economic system can keep pace with climate change in the future.

The report comes only a few months after the 2014 federal Farm Bill was passed, which cut mandatory funding to conservation programs by $4 billion. According to the National Sustainable Agriculture Coalition, mandatory conservation funding has been cut by backdoor mechanisms known as “Changes in Mandatory Program Spending” or CHIMPS in appropriations bills by nearly $3.2 billion since 2008. This is on top of nearly $2 billion in sequestration automatic cuts.

The climate change report makes it clear that a new attitude and commitment to conservation is needed if we are to protect natural resources. Without it we face increased drought, decreased yields and food insecurity.

The report was conducted by the U.S. Global Change Research Program. The full report, which went through several rounds of federal advisory committee, agency, and public review, as well as independent review by a panel of the National Academies, can be found at: www.globalchange.gov.
Census Confirms Loss of Grassland & Pasture

According to recently released Agriculture Census data, grassland and pasture acres have declined by nearly 65 percent since the 2007 Census. The 2012 Agriculture Census Data was released on May 2. The Census data is collected once every five years.

The National Sustainable Agriculture Coalition (NSAC) recently posted the following "drill down" on grass and cropland acres:

"As part of the Census, USDA reports on the extent of pasture and grazing land across the country. The Census breaks this data into two categories: (1) pasture and grazing land that could have been used for crops without additional improvements; and (2) permanent pasture and rangeland, other than pastured cropland and pastured woodland.

Category one includes high quality land that could easily be used for crop production, but is instead retained as pasture. It also includes acres of crops grazed but not harvested prior to grazing. Category two includes both high quality and low quality pasture, but it must be unusable for crop production without additional improvements.

In 2007, the amount of land devoted to pasture and grazing land that could have been used for crop production was 35.8 million acres.

Continued on page 19

Events and Resources

June 17 Meeting to Focus on Meat Processing in Eastern Kansas

Ottawa, Ks.- Kansas farmers, ranchers, meat processors and economic development personnel are invited to join Lake Region RC&D and the Kansas Rural Center on Tuesday, June 17, for a dialogue focused on the needs and opportunities for USDA-certified meat processing facilities and food hub development in Eastern Kansas.

The meeting is free and open to the public, and will be held at the Franklin County Annex, 1416 S. Main, Ottawa, from 1 to 4 p.m. Light refreshments will be served.

Speakers will provide information about local food markets opportunities for meats, business entities and planning, and potential funding sources for processing and storage facilities. Results of the just-released Douglas County Food Hub Feasibility Study will be presented by Eileen Horn, sustainability coordinator for Douglas County.

For more information, please visit http://kansasruralcenter.org/calendar or contact Heather McPeek, executive director, Lake Region RC&D heather.mcpeek @lakeregionrcd.org, or (785) 242-2073.

Lake Region RC&D is a non-profit organization dedicated to regional conservation and development in Anderson, Coffey, Franklin, Linn, Miami and Osage counties.

Northeast Kansas Food Hub Study Released

Lawrence, Ks.- Over the past eight months, the Douglas County Food Policy Council and food system stakeholders in northeast Kansas have worked with a consulting group, SCALE, Inc. to conduct a ‘food hub’ feasibility study.

A food hub is a business model that facilitates the aggregation, storage, processing, distribution, and/or marketing of locally/regionally produced food products. Food hubs can provide a critical link that helps local agricultural producers meet growing customer demand for local foods.

The study, which covered 16 northeast Kansas counties, found critical gaps in the existing infrastructure in northeast Kansas. The area lacks a central aggregation warehouse, cooling and produce packing facilities, and meat processing is limited. But the study concluded that a food hub across the region is viable.

A series of public meetings was held in early June to discuss the study’s findings and begin discussing the next steps.

The Executive Summary and full study can be found at www.douglascounty.com.
Policy News

Legislative Session...
Continued from page 13

Water. The State Water Plan (SWP) funding continues to decline as the ending balance of $4.4 million in 2013 falls to $12,871 at the end of 2015. Kansas’ law states that $6 million from the State General Fund should be transferred to SWP but that is ignored. $2 million from lottery funds should also be transferred but that is ignored.

Overall the SWP is $15.2 million in 2014 and $15 million in 2015. The Kansas Water Office will be issuing $20 million in bonds to start dredging John Redmond Reservoir. $1.6 million will now come out of the SWP for bond payments so the remaining conservation, environment and cost share programs are reduced 10-20%.

Local food and farming. In the final hours of the session, SB 380 - which established a "Local Food and Farm Task Force" - was melded into SB 286 that dealt with fees for the Kansas Department of Agriculture. This task force will have seven members with three appointed by the Governor (including the chairperson), one appointed by the Kansas Department of Agriculture, one appointed by the Dean of Agriculture at Kansas State University, one House member and one Senator from different parties. The members need to be selected by August 1 and the first meeting scheduled by September 1.

The task force will have 15 months to develop a 'local food and farm plan' for Kansas that will be presented to the Kansas Legislature in January 2016.

Health care and Medicaid expansion. The Governor signed the health care compact law (HB 2553) that could allow Kansas to take over the administration of the Medicare and Medicaid programs from the federal government. The state is still dealing with the shift to the privatized Kansas Medicaid program and allegations of mismanagement and an apparently unqualified appointee to its helm. This does not bode well for a state run Medicare program.

Education. Senate Substitute for HB 2506 included the expansion of the local option budget for school districts (in part intended to offset loss of state funds). It also eliminated due process rights for teachers, which has angered teachers, who fear that local school budgets will be balanced on their backs as teachers with what was referred to as “tenure” can be replaced with lower salaried teachers.

Contact Paul Johnson at pdjohnson@centurylink.net & Mary Fund at mfund@kansasruralcenter.org

Resources

USDA Issues New Farm to School Fact Sheets

USDA Farm to School has published two new fact sheets, available online. Selling Local Food to Schools: A Resource for Producers outlines four ways producers can help districts serve more local foods and introduce students to farming and agriculture. USDA Foods: A Resource for Buying Local is a resource for districts looking to expand their local purchasing efforts. Go to: http://www.fns.usda.gov/farmtoschool/fact-sheets.

Resources for Beginning Farmers

Based on a new study released by American Farmland Trust, finding and affording farmland to rent or buy is universally the greatest challenge for beginning farmers to overcome. While many types of resources are available to support the next generation, when it comes to land access, resources have been too far and few between to address this pervasive and persistent challenge.

Despite the challenges, beginners are finding opportunities to enter and succeed in agriculture, often inspired by and taking advantage of the local food movement.

“Cultivating the Next Generation: Resources and Policies to Help Beginning Farmers Succeed in Agriculture” reports on state and federal programs, and profiles 12 beginning farmers to show what it takes for them to succeed. Go to: http://www.farmland.org/programs/localfood/planningforagriculture/Sustaining-Farms-Farmland-Future.asp.
Sustainable Food and Farming News

2014 NC SARE Farmer Rancher Grants Announced

Three Kansas farms were announced as spring recipients of the NC SARE Program’s Farmer Rancher competitive grants.

For the 2014 Farmer Rancher Grant Program, NCR-SARE awarded more than $486,000 to more than 40 projects in the twelve state NC region, ranging from $1,370 to $22,500. The Farmer Rancher Grant Program is a competitive grants program for farmers and ranchers who want to explore sustainable solutions to problems through on-farm research, demonstration, and education projects.

Kansas recipients announced are:

* Mark Lumpe of Wakarusa Valley Farm in Lawrence, Kansas was selected to receive $11,320 for the project, "Growing Mushrooms on Local Agricultural Byproducts."
* Josh Roe of B&H Ranch in Manhattan, Kansas was selected to receive $7,223 for the project, "Economics of Grazing and Haying Cover Crops in North Central Kansas."
* Chris Sramek of Sramek Family Farm, LLC in Atwood, Kansas was selected to receive $22,500 for the project, "Feasibility, planning and purchase of Mobile Processing Unit (MPU) for Scaling up Free Range Poultry Meat Processing for High Volume Retail Market." *(From www.northcentralsare.org)*

KDA Announces Farm to School Grants

The Kansas Department of Agriculture (KDA) announced eight schools from across the state of Kansas as recipients of $12,500 Farm to School Pilot Sub-grants to implement a local food and agriculture education program in school cafeterias.

Sub-grants are derived from the grant KDA received from the U.S. Department of Agriculture in the fall of 2013 to support efforts to connect school cafeterias with local farmers and ranchers through the Farm to School program.

The selected schools will establish or expand upon an agriculture education, student managed food production system to service a minimum of two locally produced food items in the school cafeteria any five months during the school years 2014-2015 and 2015-2016.

In addition, they will create and implement a farm to school educational kit and campaign for elementary and middle school students. Each grantee will host a Good Agricultural Practices (GAP) workshop in their community.

The following schools have been selected:
* Centre USD 397 of Lost Springs, Kan. plans to expand their school garden, start an orchard, and integrate hydroponics and aquaponics systems into their existing greenhouse.
* Doniphan West USD 111 of Highland, Kan. intends to update and expand their established greenhouse as well as incorporate an aquaponics system.
* Ell-Saline USD 307 of Brookville, Kan. has developed a project including raising broiler chickens, turkeys and laying hens. In addition, they will build raised garden beds and install hydroponics systems into their existing greenhouse.
* Eudora USD 491 of Eudora, Kan. plans to build a hoop house, a chicken coop for laying hens, and expand their existing Agriculture Education program garden. At the middle and elementary schools, raised garden beds and mini hoop houses will be built.
* Maize USD 266 of Maize, Kan. will test hydroponics, aeroponics, EarthBOX and raised-bed gardens to determine the best system for food production.
* Pike Valley USD 426 of Scandia, Kan. intends to construct a greenhouse to be utilized for food and flower production as well as utilization by the science, media technology, family and consumer sciences, arts and agriculture education programs.
* Rawlins County USD 105 of Atwood, Kan. has developed a project to expand the greenhouse and the chicken house for laying hens and broilers. In addition, raised bed gardens with irrigation will be built around the community.
* Saint Francis USD 297 of St. Francis, Kan. plans to integrate hydroponics into their greenhouse and build raised bed gardens. *(From KDA News Release at http://agriculture.ks.gov/news-events/news-releases/)*
Grassland Census data....

Continued from page 11

By 2012, this number had dropped to 12.8 million acres, a reduction of nearly 65 percent. Going back further, this number was 60.6 million acres in 2002. While the Census does not speak to the drivers of grassland loss, most of these acres were likely lost to crop production as commodity prices peaked and ethanol demand increased. The amount of pastured woodland also declined by roughly 600,000 acres. In contrast, “permanent” grassland increased between 2007 and 2012 by 1.6 percent, from 408.8 million acres to 415.3 million.

Rotational Grazing

In 2007, farmers practiced rotational or management-intensive grazing on nearly 389,000 farms. By 2012, this number had declined 26 percent to less than 289,000. Three New England states—Connecticut, Rhode Island, and Vermont—plus Nevada saw increases in the number of farms using this type of grazing system. Every other state experienced significant declines.

The Census does not explore the drivers behind the trends that can be pulled from its numbers. However, the decline does parallel a steep decrease in the number of acres devoted to pasture and grazing land, as detailed above. (From NSAC May 8, 2014)

Series Posted on Ag Census

NSAC has posted a series of articles detailing different parts of the 2012 Agriculture Census data on their website. They provide an Overview, Conservation and Energy (which includes the above information on Grassland and Crops plus more), Organic and Local Food, Beginning Farmers and Ranchers, Women and Minorities.

Go to www.sustainableagriculture.net/blog.

USDA Study Shows Mixed Benefits of GMO Crops

A report evaluating 15 years of growing genetically modified crops in the US shows mixed results. Issued by USDA’s Economic Research Service, the report found that GM seeds have not proven to increase yields. The report states that in some cases yields may even be lower than non-GMO varieties.

While the prices of GM corn and soy seed rose nearly 50% between 2001 and 2010, researchers saw no significant differences between overall yields of GM herbicide-tolerant and non-GMO seeds. But scientists are concerned about increasing resistance of weeds to glyphosate, the most commonly used herbicide. Nearly half of all US cropland acres were planted with GMO crops in 2013.

The study or a summary can be accessed at: http://www.ers.usda.gov/publications/err-economic-research-report/err162.aspx#.U5Bn2IXTO5Y

Celebrating 35 Years of Support for Sustainable Agriculture --Rural Papers

YES, I want to support sustainable agriculture and a local/regional food system in Kansas.

___ $35 ___ $50 ___$100 ___ Other

Check preference below:

_____ Send paper copy Rural Papers. ______Send electronic only.

_____ Send both paper and electronic.

_____ Sign me up for Policy Watch Weekly E-Updates

Name: ___________________________________________ 6/14

Address: ___________________________________________

__________________________________________________

E-mail: _____________________________________________
Inside This Issue
No. 253
April-May-June 2014

* Natural Resource & Environmental Groups Speak out on Water Vision in Kansas
* Pollinator Decline: What Does It Matter?
* Small Farmer Commentary: From Dust Bowl to Climate Change: Adapting to Changing Conditions
* IPCC Climate Change Report: Agriculture Can Help Mitigate Revenues Uncertainties Dominate State Legislature
* Tunnel to Table Workshop Focuses on Practical Info
* KRC Launches New Beekeepers Farm to Fork Summits Focus on Local Farm & Food Policy
* Survey Shows Organic Farms Pay Price for GMO Contamination
* More Climate Change Reports
* Events and Resources

Please check the KRC website for updated and more detailed calendar and announcement information on the above and for additional events at:

www.kansasruralcenter.org

Calendar

Tuesday June 17 Meat Processing in Eastern Kansas Informational Meeting, Franklin County Annex, 1416 S. Main, Ottawa, from 1 to 4 p.m. Sponsored by KRC & Lake Region RC&D. Contact Heather McPeek, Lake Region RC&D heather.mcpeek@lakeregionrcd.org, or (785) 242-2073.

Tuesday June 24, Regional Farm to Fork Summit, American Legion hall, 506 Washington Street, Concordia. Hosted by KRC. Contact Natalie Fullerton at nfullerton@kansasruralcenter.org

Wednesday June 25 Regional Farm to Fork Summit, Colby Community Building basement, 285 E. 5th. Street, Colby, Ks. Hosted by KRC. Contact nfullerton@kansasruralcenter.org

July 22-23, Save the Date! Cover Crop Field Day near Emporia at Gail Fuller’s farm. More information available later. Check our website!

November 7-8 Save the Date! KRC 35th Anniversary Celebration and Annual Food and Farm Conference, Manhattan, Ks. More details available later.