



MONMOUTH EXTENSION *Connection*

Fall 2019

RUTGERS
NEW JERSEY AGRICULTURAL
EXPERIMENT STATION

**Rutgers Cooperative Extension
Of Monmouth County**

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Master Gardener's Helpline

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4-H Youth Development

Ext. 7264

FCHS

Family & Community
Health Sciences

Family & Community Health Sciences

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Monmouth RCE Welcomes William Errickson as New Agricultural Agent

On October 1, 2019, William (Bill) Errickson began his role as the County Ag. Agent for the Cooperative Extension Office of Monmouth County. Having worked in the agricultural sector for the last fifteen years, Bill brings with him a wealth of experiences to this position.



His academic training includes a B.S. degree in Biology from Stockton University and a M.S. degree in Natural Resources (with a concentration in Soil Science) from the University of New Hampshire. He is also currently working towards completing a Ph.D. degree from Rutgers University.

When asked about what his vision is for Cooperative Extension of the 21st century, and his role, Bill shared, "I believe the County Ag Agent position requires a diverse skill set that includes professional research, experience, and extensive communication skills, and that both an understanding of and respect for the needs of growers are paramount for an effective two way exchange between the horticulture industry and the research community."

The staff of the Rutgers Cooperative Extension Office of Monmouth County looks forward to working with Bill as he turns these ideas into reality. As County Extension Department Head Matthew Newman put it, "There is a long continuity of exceptional Ag Agents here in Monmouth County. We felt that Mr. Errickson would not only maintain that excellence, but indeed take this office in a new trajectory of outstanding Extension service."

Monmouth County Freeholder Lillian Burry, liaison to the Rutgers Cooperative Extension Office also looks forward to having Bill join the team. As Freeholder Burry put it, "just like our famous Jersey tomatoes, over the years I have seen our Monmouth Rutgers Cooperative Extension grow. Having reviewed Mr. Errickson's credentials, I feel confident he will make us all proud."

For those looking to meet Bill face to face, you are invited to attend the Monmouth Rutgers Cooperative Extension Stakeholder meeting taking place October 15, 2019.

CEDH Remarks

The 45th annual Monmouth County Fair took place July 24 – July 28. As is always the case, the Monmouth County Parks Department went out of their way to make sure that 4-H was provided a venue to prominently showcase the achievements of our youth to the residents of Monmouth County.

On display this year were the tried and true favorites – the ever popular animal tents which included herpetology (reptile), livestock, equine, and small animals. Fair guests were also treated to some of the other project areas of 4-H, including our still exhibits which included Breyer Model Horse displays, the club trifold displays, and an interactive photo booth of one of the newest 4-H programs to Monmouth County, our marine science club, where fair patrons could get their picture taken from “inside” a shark’s mouth.

Behind the scenes, there were a few other things going on. Did you know that Monmouth 4-H has a presence at Earle Naval Weapons Station? Club leaders from our Earle 4-H program were on hand volunteering at the 4-H Food Booth. To close out the fair, Fair Manager Matt Ruding showed his support of 4-H by sitting (and eventually splashing) at the 4-H Dunk Tank.

And though 4-H may be the most conspicuous department represented at the fair, the entirety of the Monmouth County Rutgers Cooperative Extension Office had a hand in delivering knowledge to fair goers.

Senior FCCHS Extension Associate Rachel Tansey, along with student volunteers, worked with the Monmouth County Board of Agriculture to present an interactive activity for fair-goers providing nutritional information and identification of various produce and how each is grown right here in Monmouth County.

Master Gardener Coordinator Diane Larson and the Rutgers Master Gardener Volunteers, with a Woodstock 50th anniversary theme (maybe you saw them in their tie-dye shirts?) put together an amazing display showcasing some of their achievements from the previous year.

The county fair is many things to many people. From this Agent’s perspective, fair week is an opportunity for the 4-H youth and the RCE office of Monmouth County to share with the general public the hard work they put in the previous fifty-one weeks. Fair is the capstone experience to the year’s worth of work we all put into our projects. In one way, it is an end., but, in another way, it is also a beginning.

See, just as soon as fair wraps up, your Monmouth Extension Office, be it through our 4-H, FCCHS, or MG programs begin planning for a new program year.



Left to Right: Rachel Tansey, FCCHS, Freeholder Lillian Burry, Liaison to Rutgers Cooperative Extension, Matthew Newman, 4-H & Diane Larson, Master Gardeners

A handwritten signature in black ink, which appears to read "Matthew Newman". The signature is written in a cursive, flowing style.

Matthew Newman
County Extension Department Head, Monmouth Rutgers Cooperative Extension

AGRICULTURE and NATURAL RESOURCES

A BRIEF PRIMER ON HYDROPONICS - PAST, PRESENT, FUTURE

The concept of growing crops hydroponically is hardly a new concept.

It refers to feeding plants through a water pumping mechanism. The use of pumping water to grow plants dates back to ancient times. The Hanging Gardens of Babylon is said to have been an ancient marvel of directing water for plant life. The Mesopotamian engineers around 500 BCE constructed canals, dams and aqueducts along with pumps known as "Archimedes' Screw" that moved water up from the Euphrates River to towering gardens above the landscape to terraces with large trees, blossoming flowers and fruits. During the 10th and 11th centuries, the Aztecs developed a system of floating gardens. Driven out of their land, they settled at Lake Tenochtitlan. Unable to grow crops on the lakes' marshy shore, they built rafts out of reeds and roots. These rafts were topped with a bit of soil from the bottom of the lake, and then floated out to the center of the water. Crops would grow on top of the rafts, their roots reaching through the rafts and down into the water. Marco Polo's writings indicate he witnessed similar floating gardens while visiting China in the late 13th century.



Sir Francis Bacon is credited with the earliest published work on growing terrestrial plants without soil in his book *Sylva Sylvarum* or 'A Natural History', printed a year after his death in 1697. Water culture became a popular research technique after that.

In the modern sense of hydroponics the plants are in a soilless environment. The word 'hydroponic' was coined in the 1920's by William Frederick Gericke, a plant nutritionist at the University of California, Berkeley. It is derived from the Greek 'hydro' (water) and ponic (labor). It refers to a method of growing plants without soil. Gericke created a sensation by growing tomato vines twenty-five feet high in his back yard in a mineral nutrient solution rather than soil.

One of the earliest successes of hydroponics occurred on Wake Island, a rocky atoll in the Pacific Ocean. Wake Island was used as a refueling stop for Pan American Airlines. A hydroponic growing system was used there in the 1930s to grow vegetables for the passengers. Because Wake Island had no soil the hydroponic system solved the ability to grow vegetables that otherwise would be prohibitively expensive to airlift in. Later, with the onset of World War II, hydroponic grow systems were used throughout the Pacific and South Atlantic as an economically viable solution to provide freshly grown crops to the troops. Hydroponically grown crops mitigated the financial burden of transporting fresh food from the states to the troops overseas.

Hydroponic growing systems have distinct advantages over soil-based growing. They have higher growth rates, use much less space, are more efficient with the use of water and, because it is in a controlled environment, it has better control of pests and disease.

The downside of the soilless planting method is its expense. Though a small scale DIY home system can be constructed for under \$100, a large scale hydroponic farm requires computerized monitoring, a network of lights, extensive water piping with filters and pumps, temperature and humidity controls along with backup generators

in the event of power loss. Combined, these components constitute a huge start up expense to grow plants. Such an investment was made in Newark, New Jersey; the company Aero Farms has successfully scaled up their operation to produce over two million pounds of lettuce greens annually. Aero Farms uses aeroponics, a form of hydroponics where plants are in an enclosed place exposed to LED lights and the roots are exposed to air and a frequent nutrient-filled mist.

There are big challenges in the future to feed the planet, two of the biggest being climate change threatening conventional agriculture and population growth. According to the Food and Agriculture Organization of the United Nations, population growth is predicted to require food production to increase by 70% in 2050. So how do we feed everyone if the Earth's population is 9.7 billion?

One positive light for the future is the research being conducted at Rutgers University Department of Plant Biology by Distinguished Professor Eric Lam and his team. His lab is working to establish a new plant production platform using vertical hydroponics to grow duckweed. Duckweed is the world's fastest growing plant and has more protein than soybeans, a traditional food source in parts of Southeast Asia. Duckweed is proving ideal for vertical farming. The fastest-growing duckweed strain can produce about 20 grams (dried) per square meter per day. That's about 1.4 million pounds per hectare (2.47 acres) annually – 50 times what you get from corn.

Developing hydroponic growing systems is undoubtedly a positive approach to the future of agriculture. Using no soil, it is a valuable method to grow fresh vegetables in places with little arable land, like Arizona or Israel. It is also useful in dense urban environments, like Tokyo or New York, where land is at a premium. It is also invaluable in areas with short growing seasons like Alaska or Russia where the growing conditions can be contained in a controlled environment. Hydroponic technology coupled with prudent land management in conventional agriculture will be key forces to maintain the food supply for future generations.

For further information or questions on various hydroponic systems and construction contact: Monmouth County Extension Agriculture Associate Dennis McNamara.



Protecting Our Watersheds By Retrofitting Stormwater Basins

*By Michele Backas, County Agent,
Agriculture and Natural Resources*

Over the last year, 2 stormwater basins in Manalapan Township have gotten an environmental makeover. The basins have been “naturalized” so they function more like wetlands thereby helping to reduce rainwater runoff, filter pollution, and protect the local watershed.

The 2 basin restoration projects, one on Thompson Grove Road and the other off Sweetmans Lane, are within the Manalapan Brook Watershed. The basin projects are part of a larger effort to protect the Manalapan Brook which flows north from Monmouth County to Middlesex County and eventually into the Raritan River.

When it rains, runoff is often directed into stormwater basins from streets, parking lots, and other impervious surfaces. The naturalized basins were known as “detention basins” which often have a concrete channel running down the center. These basins help control flooding by storing rainwater and releasing it slowly over time to streams and rivers through an outlet.

Detention basins have a number of environmental problems. The first flush of runoff flows through the basin’s concrete channel carrying with it the oil, grease, lawn fertilizer, and other pollutants from the surrounding community. All that pollution flows directly into the Manalapan Brook. In addition, if stormwater basins are not maintained properly they may get clogged. Sediment dams form causing standing water where mosquitoes may breed. Although they look neat, these basins are usually devoid of beneficial habitat and attract nuisance wildlife like Canada geese. Lastly, the soil in these basins can be so compacted that water cannot soak into the ground. Rainwater infiltration through the soil is a natural part of the water cycle and necessary for replenishing underground aquifers.

The process of naturalizing a basin uses native plants and soil to filter pollution and absorb runoff. The concrete channel is removed and compost is incorporated into the soil. Wetland vegetation planted at the site is very effective at absorbing water, filtering pollutants, and provides habitat for beneficial wildlife including birds, butterflies and amphibians.

By replacing the lawn grasses found in most basins with native plants, the basin will return to a functioning ecosystem.



If your community is considering naturalizing stormwater basins, the first step is to choose the right site. Basins that have low-flow channels, mowed turf, and are not used for any other purpose would be good candidates to naturalize. Basin naturalizations can be as easy as just not mowing and allowing the grass to grow. Another simple method is to seed the basin with a meadow mix or planting through the sod with plugs or potted plants. These methods will reduce cost and labor. Planting with volunteers can also help save money and help educate the community about the ecological benefits of the project.

The Manalapan Brook Watershed Restoration project is a long-term partnership between Freehold Soil Conservation District, South Jersey Resource Conservation and Development, Rutgers Cooperative Extension of Middlesex County, Princeton Hydro, Middlesex County, Manalapan Township, and Monroe Township. For more information and to watch videos about this project visit www.tinyurl.com/ManalapanWatershed or contact Michele Bakacs at bakacs@njaes.rutgers.edu or (732) 398-5274.

Research Spotlight

The Atlantic sea scallop fishery is the most valuable commercial fishery in the Garden State, with the statewide ex-vessel value of landings (i.e., farm gate value) being approximately \$80 - \$150 million annually over the last decade. Therefore, this fishery is very important socio-economically for coastal communities throughout the state, while also providing fresh, high quality seafood for local and international markets. Given the importance of this fishery, it is critical that responsible fishing practices and management policies continue to be implemented in order to ensure the long-term sustainability of the resource, fishery, and associated coastal communities.

Researchers from the New Jersey Agricultural Experiment Station (NJAES) are working in collaboration with fishermen from Atlantic Capes Fisheries in Cape May on a cooperative research project which seeks to improve the efficiency and



sustainability of fishing practices by evaluating a modification to the dredge used to harvest sea scallops. This modification involves a change to the cutting bar on the dredge by allowing the cutting bar to be positioned at different angles with the objective of changing the flow around the fishing gear and reducing the catch of small sea scallops, as well as bycatch of non-target species of flounders, skates, and sand dollars. Therefore, this dredge modification has the potential to further improve the sustainable fishing practices already employed in this fishery and also improve their fishing efficiency (i.e., spend less time sorting through the catch), and could be employed by fishermen throughout New Jersey and the northeast United States. Experimental fishing trials with the modified dredge are being carried out on offshore fishing grounds during the fall of 2019.



The NJAES research team includes Dr. Jason Morson and Dr. Eleanor Bochenek from the Haskin Shellfish Research Laboratory, as well as Dr. Douglas Zemeckis (Marine Extension Agent) with Rutgers Cooperative Extension. The research project is funded by the 2019/2020 Sea Scallop Research Set Aside Grant Program administered by the NOAA National Marine Fisheries Service.

If you have any questions or would like additional information, then please contact Dr. Zemeckis: zemeckis@njaes.rutgers.edu, 732-349-1152.



MASTER GARDENERS

Rutgers Master Gardener News

By Diane Larson, County Extension
Horticulturist

What a busy summer it was for the Master Gardeners of Monmouth County! After a successful Spring Garden Day Plant Sale (thank you Mother Nature!), MG's hosted a Community Garden Tour, partnering with Grown in Monmouth for two mornings of open houses in 18 of the Community Gardens that MG's volunteer in. Teaching and donation plots were highlighted in these gardens, spreading the mission of horticultural education and giving back.



The Monmouth County Fair was another success (thank you AGAIN, Mother Nature!), where our display celebrating the 50th anniversary of Woodstock was a 'Flower Power' extravaganza, featuring peace, love, tie-dye, and of course flowers!



Monmouth County's Junior Master Gardener Grow Team Program, established in 2007, gets better each year! This year's crop of 18 students attended classroom discussions that were lively and informative. Some lessons were lecture, most were hands on. Outdoor, hands on lessons in the JMG garden were enjoyed by not only the students but by the MG mentors as well. Seeds were sown and plants planted in each JMG plot. Every Saturday throughout the summer their crops (and their weeds too!) were harvested and weighed. Thursday evening, July 25th, the students harvested 325 lbs of vegetables as the MG's instructed them how to prepare their harvest for entry into the Home and Garden competition at the Monmouth County Fair. The JMG Grow

Team Members proudly won a total of 83 ribbons – 19 of them blue ribbons - all under the tutelage and guidance of the Master Gardener volunteers

Horticultural Happenings

As the cool, wet spring resulted in many fungal diseases on ornamental plants (anthracnose, rust, black spot, powdery mildew), it was followed by intense heat and rain, and lots of reports of lawn diseases. Trying to get the word out to our clients to turn off their sprinklers is always a challenge, and by the time we got reports in of turf dieback from disease, it was too late for controls. The promotional saying 'Fall is for Planting' means lawn renovation too, and from what we've seen in the Helpline room, there will be LOTS of that going on this September.



After hearing of heavy infestations of Fall Webworm in early summer, more reports of this pest of trees were again reported in August when the second generation emerged. Fall Webworm overwinters as a pupa in a cocoon in ground litter or the soil. Adults first appear in mid-June but may continue to emerge in small numbers during most of the summer. Females usually deposit their egg masses on the undersurface of the leaves. Larvae hatch in approximately 7 days. They immediately begin to spin a small silken web over the foliage on which they feed. As they grow, they enlarge the web to enclose more and more foliage. Larvae mature in about 6 weeks when they leave the web and pupate on or in the soil. From watching a nest on my own property, I observed that it became a food source for mockingbirds. A healthy tree will withstand the damage from this pest, so although it is a little unsightly, control is usually not warranted, and is most effective while the larvae are small (July).

Food Safety Tips For When Your Appliances Lose Power

Power outages can occur year-round and food is at risk if it is not properly stored. More importantly your health is at risk if you consume food that should have been discarded. This article discusses tips for keeping food safe as long as possible and deciding which foods are safe and which are not after you have experienced a power failure.

Help! My Refrigerator or Freezer Stopped Working. Is My Food Safe? A food safety guide after a power failure or appliance problem (Fact Sheet FS1178) by Daryl L. Minch, M.Ed., CFCS, Family and Community Health Sciences Educator, Somerset County

Full article Available on-line: <https://njaes.rutgers.edu/pubs/publication.php?pid=FS1178>



Power failures, doors left open, and appliance breakdowns are reasons for a refrigerator or a freezer to stop working properly. When this occurs, the quality and safety of food or beverages in your refrigerator or freezer is in question. You need to decide if the food is safe.

Is the Food Safe to Eat?

The answer is not simple; however these guidelines and food charts will help you decide if a food is safe. You must evaluate each food separately. Health and Safety First Staying healthy is most important. If you get sick from eating an unsafe food, the cost of going to a doctor or hospital will cost more than the cost of replacing the food. Young children, older adults and people with serious illnesses or weakened immune systems are more at risk for foodborne illness. They may get sick sooner, have more serious symptoms or die. A food may look, smell, and taste good, but still contain unsafe amounts of pathogens or toxins (poisons produced by bacteria). Cooking is not guaranteed to make the food safe. The golden rule of food safety is “when in doubt, throw it out”, never taste the food!

Answer these Questions to Decide If a Food Is Safe:

What is the freezer or refrigerator temperature at now? Keep a thermometer in the refrigerator and freezer areas to monitor the temperature. • The freezer should be at 0°F or below. • The refrigerator should be at or below 40°F. If the temperature is higher than these recommendations, then the food will start to thaw and/ or spoil more rapidly. The warmer the temperature, the faster bacteria will grow in the food.

How much time has passed since the power went out or the appliance failed?

- Write down the time when the power went off and the time the power went back on. How long was the power off? If you don't know, give it your best guess. For example was the power out 1 hour or 20 hours?
- Refrigerated food should be above 40°F for no more than 2 hours. Longer times may allow bacteria to grow.
- A full refrigerator with the door closed will hold its temperature for about 4 hours.

A full freezer with the door closed will hold its temperature for about 2 days, a half-full freezer about 1 day. A full stand-alone freezer may stay cold even longer. If the freezer is not full, stack packages together to keep the food colder and fill empty space with ice packs or bags of ice. Put trays under food because it may drip when thawing.

Refrigerator. Does food feel cold?

- Check the temperature of refrigerator foods, as soon as the power goes back on.
- If possible, use an instant read thermometer to check the temperature of foods. It is easy to test milk or leftovers with an instant read thermometer. Do other foods feel cold to the touch?
- Cold foods (40°F or less) may still be safe. Once foods exceed 40°F, many will remain safe for only 2 more hours.
- Use the food chart to determine which foods to keep and which to discard.

Freezer. Is the frozen food still hard to the touch? Does it have ice crystals in it? Is it cold?

- Don't open the freezer when the power is off, but do inspect freezer foods immediately after the power goes back on. If you wait too long, the food will be cold or freeze again and you will not be able to tell if it has thawed.
- Food that is partially frozen or contains ice crystals may be refrozen or used.
- Food that is cold, (refrigerator temperature) may be refrozen or used.
- Thawed food loses quality (texture and flavor).
- Discard food that is warm or melted, except for cooked (not raw) baked goods (examples: bread, cookies, cake).
- Use the food chart to determine which foods to keep and which to discard. What to Do When the Power Goes Off
- Keep the refrigerator or freezer doors closed. Open only as necessary.
- Write down the time when the power went off and the time the power went back on so you will know how long the power off.
- The foods listed below will remain safe without refrigeration (see chart for other foods) so do not worry about keeping them cold. These foods are refrigerated to maintain quality and increase storage time, not to keep them safe.
 - o Uncut, fresh fruit and vegetables such as apples, lemons, limes, oranges, carrots, peppers, and broccoli. However, cut produce must be kept cold for safety.
 - o Breads, muffins and other baked goods
 - o Grated parmesan or Romano cheese
 - o Jelly, taco sauce, ketchup, mustard, soy sauce, barbeque sauce, and peanut butter
 - o Butter or margarine
- If the power will be off a long time, choose one of these options:
 - o Group foods together in the refrigerator or freezer or in a cooler with ice. A cooler is easier to keep cold than the refrigerator. A freezer will stay cold longer with additional ice.
 - o Find a friend with extra refrigerator or freezer space.
 - o Locate frozen ice packs, block ice or bagged ice. Block ice lasts longer. Add ice or ice packs to the refrigerator and freezer. The more ice, the better. If placing in the refrigerator, place ice in a container to hold the melting water. Replace ice as it thaws.
 - o Locate dry ice. Look under "ice" or "carbon dioxide" in the telephone book. Dry ice is very cold (-109.3°F) and can burn skin, so wear protective gloves and follow directions on how to handle it safely. Twenty-five pounds of dry ice should keep a full 10 cubic-foot freezer cold for 3 or 4 days.

Discard Unsafe Food

Unsafe food can make people and animals sick. Do not taste questionable food. Do not feed it to pets or wild animals. Discard food by putting it in a plastic bag and in a closed garbage container. Make sure animals cannot get into it. Wash your hands and surfaces well after handling potentially unsafe food.



**Farmers Keep Our
County Green**

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MONMOUTH COUNTY BOARD of AGRICULTURE

Calendar Items:

October 15, 2019 @ 7:30pm (Annual Meeting)

*Meetings are scheduled for the third Tuesday of every month at 7:30 pm.

Meetings are held at the Agriculture Building, 4000 Kozloski Road, Freehold, NJ 07728. We welcome all interested

agriculturalist and industry supporters to join us for lively discussion on issues, challenges, and solutions in agriculture.



For nearly a century, the Monmouth County Board of Agriculture has assumed leadership in planning programs related to agricultural and rural issues. It has also worked hard to aid farmers in the development of the most profitable and sustainable types of agriculture, as well as help investigate and solve technical problems relating to crop production.



Additionally, the Monmouth County Board of Agriculture understands the need to foster the next generation of leaders in food, agriculture, and rural life. That is why it has and continues to support the FFA Chapters of Monmouth County—Allentown FFA, Freehold FFA, and the Monmouth County Career Center.

If you are interested in joining the Monmouth County Board of Agriculture, or learning more about the industry in our county, be sure to attend a meeting or reach out to one of its members. For more information, contact Secretary@MCBOA.org.



4-H

2019 Monmouth County Fair

By Matthew Newman, County Agent,
4-H Youth Development

The 2019 Monmouth Fair took place July 24 – 26, 2019. Freeholder Lillian Burry, liaison to the Monmouth RCE/4-H Office, was on hand to crown Olive Scaff the 2019 Monmouth Fair Ambassador during the annual 4-H Ambassador program. Olive's parents are Alex and George Scaff of Cream Ridge. Olive is a member of both the Stars and Strides 4-H Club as well as the Monmouth 4-H Teen Council.

The Monmouth County 4-H program had a little bit of everything for those that came to the fair.

By the Numbers

This 2019 Fair Season, the breakdown of 4-H Fair entries were as follows:

- 16 = Horse Projects
- 31 = Livestock Projects
- 30 = Poultry Projects
- 59 = Rabbit/Cavy/Small Animal Projects
- 42 = Herpetology Projects
- 19 = Cloverbud Court Participants



Additionally, the Monmouth 4-H non-animal projects were represented in our 4-H tent and included such clubs as our rocketry club, our marine science club, our environmental education club, and our kayak club.

New 4-H Program Year

The 2019-2020 4-H Program Year Starts September 1 and the Monmouth 4-H office will begin accepting both reenrollments of returning members as well as enrollments for new youth members to the program.

To enroll or reenroll, parents of youth are directed to go to: <https://nj.4honline.com/>. If reenrolling, parents will be asked to log in and follow the prompts. If new to 4-H, parents will be asked to create a profile.

The cost to join 4-H in New Jersey is free, though some 4-H club do have club dues and certain 4-H projects/programs have certain fees.

If there are any questions on either enrollment or reenrollment, please do not hesitate contacting your Rutgers Cooperative Extension Office of Monmouth County.

4-H Cloverbud Day

The annual 4-H Cloverbud Day took place July 16 at Sandy Hook. Cloverbuds are the youngest members of any 4-H county program (grades K-3), and this year we had a record setting twenty-five participate during our "Ride the Wave" 4-H Cloverbud Day. The summer Cloverbud program is special in that the event planners/coordinators are members of our 4-H Teen Council. Working with and through their 4-H Club Leaders and 4-H staff, Teen Council members developed a day of education and fun.



The program was built around the theme about marine science, and as such, RCE Marine Science Agent Doug Zemeckis was on hand to do a fish identification program with the youth.

Feedback was overwhelmingly positive, and plans are already underway for a Fall 4-H Cloverbud Day! Contact your Monmouth Rutgers Cooperative Extension Office for more details.

Upcoming Events



2019

**Monmouth County
Board of Chosen Freeholders**

Thomas A. Arnone
Director

Patrick Impreveduto
Deputy Director

Lillian G. Burry

Gerry P. Scharfenberger, Ph.D.

Susan M. Kiley



2019 RCE office closures:

October 14

November 5, 11, 28, 29

December 25

Annual Stakeholders Meeting:

October 15, 2019 at 5:30 p.m. **RSVP:** Cathy Van Benschoten –

Catherine.VanBenschoten@co.monmouth.nj.us Phone: 732-431-7260 x-7280

**A Special Thanks to the Board of Chosen Freeholders
and the County of Monmouth for printing.**

