Interested in attending the 2016 Volunteer Conference of Southern States (VCOSS)? We need volunteers (and Agents too!) to submit proposals for educational sessions, which can come in a variety of formats and may include demonstrations, experienced lecture, ignite presentations, panels, skill building or think tanks. Teams are encouraged to apply in order to create hands-on, engaged sessions. Think of ways to share information that may be used with 4-H members or other adult volunteers in enhancing the total club experience, introducing new ideas, concepts and skills, offering opportunities for discussion and solution building together, enhancing existing programs or learning all new skills. Contact Ashley Burns (taberp@clemson.edu) if you need assistance in this process. For more information on the conference and how to submit a proposal, visit: http://vcoss.weebly.com/conference-workshops--learning-labs.html. The Call for Proposals is attached to this flyer.

Proposals are being accepted for Workshops, Funshops and Learning Labs through Sunday, May 15th. Sessions will be peer reviewed using a selection rubric and presenters will be notified mid-June. There will be a $30 discount (10%) on the registration fee for the primary presenter for each session. Individuals volunteering at the conference will also earn a registration discount!

Make plans to join us for the 2016 Volunteer Leaders Symposium! Whether you are a brand-new volunteer or have been with 4-H for years, we have something for you! It will be held in Columbia and registrations will be taken online. Watch for more details to come.

4-H Club Awards
Due to State 4-H Office
Wednesday, June 1, 2016
Is your 4-H Club or Group eligible for state awards?! See the attached Standards of Excellence to determine if you qualify for awards (to be announced at the Volunteer Leaders Symposium in August). Submit the form to the State 4-H Office by mail (2054 Barre Hall, Clemson, SC 29634), email (sc4h@clemson.edu), or fax (864-656-7595) by June 1.
Monthly 4-H Club Activity Idea

Mosquito Mitigation

Objective: to learn practical skills that can reduce mosquito breeding grounds and potentially reduce the spread of mosquito-borne diseases.

Age Range: All ages.

Hands-on Activity: walk outdoors to identify mosquito breeding grounds and discuss ways to manage them. Really ambitious groups can collect water from different sources and determine if they harbor mosquito eggs, larva, or pupae!

Life Skills: HEAD = decision making
HEART = social skills, communication, cooperation;
HANDS = leadership, contributions to group effort, teamwork;
HEALTH = self-esteem, character,

Introduction

It is that time of year again when going outdoors, especially in the mornings and evenings, means being attacked by mosquitoes!

What is a mosquito?
A mosquito is a small, flying insect. Before laying eggs the female mosquito sucks blood from a host! They are most active in spring & summer months.

What happens when a mosquito bites you?
Mosquitoes suck blood through a long tube-like mouth. The bite itself is virtually painless and you will not be harmed by the loss of blood. However, the saliva (i.e. spit) of a mosquito causes an itchy, irritating rash on the skin’s surface. (If you group is mature enough to handle the conversation, you can also talk about how mosquitos can be vectors that spread diseases like West Nile virus and Zika virus. Just try not to be too scary!)

What can you do to prevent being bitten by mosquitoes?
Limit time outdoors when mosquitos are most active (mornings & evenings). Cover exposed skin by wearing long-sleeved shirts and long pants. Use insect repellents.

Do mosquitoes have any natural predators (something that eats mosquitos)?
Yes! Adult mosquitoes are eaten by a variety of birds (especially waterfowl – ducks, geese), lizards, frogs, and spiders.

Developing mosquitos are eaten by aquatic animals such as fish, nymphs, and amphibians.

Stages of Development

Eggs: are laid in very, slow-moving or stagnant (still, not-moving) water. They can be laid attached to plants/debris in the water or assembled into floating rafts. The eggs will hatch in 1-4 days to release larvae.

Larvae: live in the water and breathe air at the surface through a long siphon (like a snorkel!). They eat organic matter in the water and molt as they grow. Very active swimmers when disturbed. After the 4th molt, they are pupae. This process takes about 1 week.

Pupae: also live in the water at the surface. They also breathe air, but through 2 horn-like tubes on their backs. Mostly still, but can swim by strong flicks of their tails. The adult hatches from the pupae after 2-3 days.

Adult: Live on land and fly. They only live about 3 weeks in the summertime, but can live 3 months or longer over the winter.

From egg to adult = 10-14 days. The warmer the weather, the faster the development occurs, sometimes as little as 4 days!!!
Activity 1, Mosquito Metamorphosis
You can prepare this activity about 1 week in advance (or potentially collect water from Activity 2) to allow youth to examine mosquitos’ stages of development. Place glass jars outdoors and allow them to fill with rainwater (or add about 1 inch of tap water). Mosquitos will find the water source and lay eggs. For a short period of time, you can secure a metal lid over the jar; for extended closure, you can use a rubber band to secure a coffee filter over the opening. Youth will be able to observe multiple stages of development inside the jars within 1 week, assuming good growing conditions. (DO NOT open or store the jars indoors! You do not want to unintentionally release adult mosquitos!!!) See the descriptions above and pictures below to identify the different states of development.

Activity 2, Egg Elimination
Have youth break into groups and brainstorm ideas to reduce the amount of mosquitos around their homes, schools, and communities. (Tip: Once the adult hatches, you really cannot do much to get rid of them.) After youth brainstorm ideas, they can share them with the entire group! Remove any area of standing water after rain (i.e., flower pots, containers, tarps, etc.). Replace water in standing vessels (i.e., bird baths) every 2-3 days. Add predators (i.e., fish) to ponds and animal water troughs that will eat eggs, larvae, and pupae. Aerate the water to create movement and prevent mosquitos from laying eggs.

Take a walk around the building (and/or challenge youth to walk around their homes) to identify and remove sources of standing water that mosquitos will use as breeding grounds.

Conclusion
Youth have the power to educate others and reduce mosquito populations around them!

Did you know?!
- Only the female mosquito ingests blood.
- Blood is a protein source for the female mosquito, which allows her to develop eggs.
- When not drinking blood, mosquitos live off of plant nectar.
- Mosquitos act as pollinators, like honey bees!
You’re invited to submit a presentation proposal for the **4-H Volunteer Conference of the Southern States, October 6-9**, at Rock Eagle 4-H Center in Eatonton, Georgia. We hope you’ll take this opportunity to share your knowledge and experience. Workshops are instructional, in-depth sessions engaging learners and instructors. The focus is to engage learners in practical knowledge and skill development to immediately impact work with 4-H members and volunteers. Each session is 90 minutes.

**4-H Volunteer Research, Knowledge & Competencies**

The Volunteer Research Knowledge and Competency Taxonomy Model (VRKC) is based on a study that identified the competencies that volunteers need in order to effectively deliver 4-H Youth Development programs and activities. This taxonomy provides 4-H professionals with a national focus and direction related to the levels of competency and the perceived needs of 4-H volunteers. It is based on a comprehensive study of paid staff and volunteers in 21 states covering all four Extension regions. (More information about VRKC: [http://nextgeneration.4-h.org/volunteerism/vrkc/](http://nextgeneration.4-h.org/volunteerism/vrkc/))

The VRKC taxonomy is expressed in six domains that are listed in the cumulative order of importance, competence and use, as determined as a result of the 2003-2004 study. The six domains are communication, organization, 4-H program management, educational design and delivery, positive youth development and interpersonal characteristics. Conference session proposals should address at least one of these domains.

**Essential Elements of Positive Youth Development**

The 4-H essential elements are derived from traditional and applied research of the characteristics of effective programs contributing to positive youth development. In 1999, the National 4-H Impact Design Implementation Team was charged with determining the “critical elements of an effective 4-H experience.” After a comprehensive study of youth development research findings the team decided that there were eight elements that were critical to the well being and positive development of youth who participated in organized, non-formal educational experiences and settings. Those eight critical elements were affirmed in 2002 by an expert panel convened by the Institutes of Medicine/National Research Council. The eight elements are: 1) positive relationship with a caring adult; 2) a safe emotional and physical environment; 3) an inclusive environment; 4) engagement in learning; 5) opportunity for mastery; 6) opportunity to see oneself as an active participant in the future; 7) opportunity for self-determination; 8) opportunity to value and practice service to others. (More information about Essential Elements of 4-H Youth Development: [http://www.4-h.org/resource-library/professional-development-learning/4-h-youth-development/youth-development/essential-elements/](http://www.4-h.org/resource-library/professional-development-learning/4-h-youth-development/youth-development/essential-elements/))

**Educational Focus**

Special attention will be given to workshop seminars that address focus areas identified by Volunteer Conference of Southern States participants. These areas include leadership, involving parents & volunteers, technology, science, and citizenship. Additionally participants may submit sessions of general interest that may not directly relate to these foci.

**Application & Selection Process**

Workshop proposals must be submitted electronically online: [https://ugeorgia.qualtrics.com/SE/?SID=SV_3K2epiDzlUFNA0d](https://ugeorgia.qualtrics.com/SE/?SID=SV_3K2epiDzlUFNA0d)

Applications will be accepted through May 15, 2016. Sessions will be peer reviewed using a selection rubric and presenters will be notified mid-June. Presenters selected should be available for the duration of the conference and are responsible for their own expenses including conference registration, travel, lodging, equipment, handouts and materials. There will be a $30 discount (10%) on the registration for the primary presenter for each session. For additional information concerning application and selection refer to the website or contact Bryan Terry (terry1@ufl.edu or 352-273-3539) or Veronica Del Bianco (VDelBianco@agcenter.lsu.edu or 225-578-2978).

In order to better prepare for the electronic submission, the following is a list of necessary information as it appears on the electronic form. The form cannot be saved in progress so it is advised that you first draft your responses so you can cut and paste into the survey proposal form. Should you submit an incomplete proposal, email contact Bryan Terry (terry1@ufl.edu or 352-273-3539) or Veronica Del Bianco (VDelBianco@agcenter.lsu.edu or 225-578-2978) to indicate your submission revision(s).
Application Includes

- Name and Title of Lead Presenter
- Additional Presenter(s) Name(s)
- Mailing Address for Lead Presenter
- Email Address for Lead Presenter
- Phone number for Lead Presenter
- Presentation/Poster Title
- Most Applicable VRKC Domain for Presentation
  - Communication
  - 4-H Program Management
  - Positive Youth Development
  - Organization
  - Educational Design & Delivery
  - Interpersonal Characteristics
- Most Applicable Essential Element(s) for Presentation
  - Positive relationship with a caring adult
  - Safe emotional and physical environment
  - An inclusive environment
  - Engagement in learning
  - Opportunity for mastery
  - Opportunity to see oneself as an active participant in the future
  - Opportunity for self-determination
  - Opportunity to value and practice service to others
- Educational Focus
  - Leadership
  - Parent & Volunteer Involvement
  - Technology
  - Science
  - Citizenship
- Maximum number of session participants (minimum 25 required)
- Session description of no more than 60 words for conference program
- Learner objectives for session (At the end of this session, the learner will be able to:)
- Program description (abstract) not to exceed 250 words to include teaching methods, potential audience, relevance to audience, and other information to help describe your program
- Presenters teaching experience with this topic to include past sessions taught on this or similar topic(s), audiences delivered to and other experience with the topic, if the session has been taught at past 4-H Volunteer conferences and the year
- Each workshop will have a presenter table and a table and chairs for participants. Posters will have a table and easels. What additional equipment would you need?
  - LCD projector
  - Easel with Chart paper
  - Wireless access
- Additional information

Note: No additional participant fees may be charged for any presentations or funshops.
Standards of Excellence for 4-H Clubs and Groups

Check the following Club Performance Standards completed during the 4-H year. Documentation may come from meeting minutes, scrapbooks, photos, newspaper articles, letters, etc., and should be attached to this form.

Club/Group Name ____________________________________________
County ____________________________________________________
Club/Group President Signature ____________________________ Date __________
Organizational Volunteer Signature __________________________ Date __________
Total Number of checked responses for the 20 Excellent Standards __________

Club Performance Standards

_____ 1. Club/group had a planned annual program that includes group goals. (Ex: recruit 4 new members; all members will choose one county learning activity to attend)

_____ 2. Club/group members were actively involved in planning the club/group’s annual program.

_____ 3. Club/group selected an area of focus for their annual program. (Ex: health & fitness; environmental science; pet care; community service; intercultural understanding) OR club/group is represented in the community, by serving on a committee, council or board with adult partners.

_____ 4. Club/Group members were involved in implementing the annual program/activities. (Ex: planning and bringing snacks; leading the pledges; calling club/group members for a meeting or assignment; presenting a demonstration; organizing a tour; introducing a speaker; leading recreation; teaching others)

_____ 5. A calendar for the year was printed and distributed to members, parents, volunteers, and the local Extension Office. (Ex: identify meetings dates, locations, educational programs; special projects; social events; county or district events)
6. All members were invited and at least 75% of club/group members were involved in at least nine club/group activities during the year. 
   (Ex: meetings; club/group tours; recognition event)

7. Club/Group officers were elected or appointed, and fulfilled their leadership roles.

8. Club/Group completed at least one (1) community service project.

9. Club/Group completed at least one (1) promotion activity that promotes 4-H visibility at the community or county level. 
   (Ex: participating in a community parade; radio interviews during National 4-H Week; project displays in business windows; or doing website development for County Extension office.)

10. Club/Group has completed at least one (1) project that promotes 4-H visibility at the county, multi-county, district, state, multi-state, national or global level.

11. Club/Group recruited at least one (1) project volunteer for at least 75% of the member’s project learning areas.

12. At least 75% of the members made progress toward individual 4-H project goals.

13. Group developed a method to communicate with families at least three (3) times per year regarding club/group activities, education, and achievements. (Ex: newsletters; e-mails; calling tree; group activity that includes families)

14. Club/Group planned at least one (1) activity to include parents and families in club/group activities. (Ex: project showcase; skating party; tours; recognition event)

15. Members took part in a variety of non-competitive activities and/or meetings beyond the 4-H club/group level. (Ex: county project workshops; council meetings; interstate exchange programs)

16. A scheduled recognition event was held for members, volunteers and parents.

17. Club/group planned and implemented at least one multi-club activity. 
   (Ex: doing multi-club community service; several clubs managing a community or county event; conducting a multi-club learning or social event)

18. Members participated in competitive 4-H events beyond the club/group level. (Ex: county events; district events; state fair; project area competitions)

19. 4-H club/group consistently had a safety/supervision ratio of 1 adult to 10 youth.
20. The racial/ethnic composition of the club reflects the diversity of the surrounding community. (If club does not reflect the diversity of the community, then successful efforts to contact minority citizens in person, by mail, and through mass media may be used. Work with your county 4-H agent for help achieving this goal.)

<table>
<thead>
<tr>
<th>Questions Checked</th>
<th>Award</th>
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<tbody>
<tr>
<td>12-13</td>
<td>BRONZE Clover Club Award</td>
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<td>14-15</td>
<td>SILVER Clover Club Award</td>
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<tr>
<td>16-17</td>
<td>GOLD Clover Club Award</td>
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<tr>
<td>18-20</td>
<td>EMERALD Clover Club Award</td>
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This report is due in the State 4-H Office June 1 of the current club year.
What's The Best Way To Keep Mosquitoes From Biting?

Testing The Effectiveness Of Mosquito Repellents

A 2015 study tested eight commercial mosquito repellents, two fragrances and a vitamin B patch by releasing mosquitoes into a sealed chamber with a treated hand. The study found that after four hours, the most effective were products containing DEET, as well as one "natural" DEET-free spray.

Notes
The study tested two mosquito species. The chart above shows attraction rates for the Aedes aegypti species.

Source: Journal of Insect Science
Credit: Katie Pask/INPR
Testing The Effectiveness Of Mosquito Repellents

A 2015 study tested eight commercial mosquito repellents, two fragrances and a vitamin B patch by releasing mosquitoes into a sealed chamber with a treated hand. The study found that after four hours, the most effective were products containing DEET, as well as one "natural" DEET-free spray.

Don’t get bitten by mosquitoes.

That’s the advice offered to the public in virtually every article on the rapidly spreading, mosquito-borne Zika virus.

There’s no arguing with the advice. Zika, once considered a relatively mild flu-like illness, has now been linked to a surge in severe birth defects in Brazil and possibly to cases of paralysis.

But anyone who is a mosquito magnet must be asking: Can humans really keep the bloodsucking bugs at bay?

To find out how people can best protect themselves. NPR talked with researchers, many of whom spend lots of time in mosquito-infested jungles, marshes and tropical areas.
Which repellents work best to stop mosquitoes from biting?

"DEET" is the immediate one-word answer from Dr. William Reisen, professor emeritus at the School of Veterinary Medicine at the University of California, Davis and editor of the Journal of Medical Entomology.

"DEET is the standard," agrees Dr. Mustapha Debboun, director of the mosquito control division of Harris County Public Health and Environmental Services in Houston. "All the repellents being tested are tested to see if they beat DEET."

DEET is shorthand for the chemical name N,N-diethyl-meta-toluamide. It’s the active ingredient in many insect repellents, which don’t kill mosquitoes but keep them away.

Dr. Dan Strickman agrees that DEET is tried and true. Strickman is with the Global Health Program at the Bill and Melinda Gates Foundation (which is a funder of NPR) and author of Prevention of Bug Bites, Stings, and Disease.

DEET appeared on store shelves in 1957. There was some early concern about its safety — speculation that it was linked to neurological problems. But recent reviews, for example a study published in June 2014 in the journal Parasites and Vectors, says, "Animal testing, observational studies and intervention trials have found no evidence of severe adverse events associated with recommended DEET use."

Other repellents work to prevent mosquitoes from biting as well.

But DEET isn’t the only weapon. Products containing the active ingredients picaridin and IR 3535 are as effective, says Strickman. And repellents with any of those active ingredients are recommended as safe and effective by the Centers for Disease Control and Prevention. They are widely available around the world.

Actually, Strickman gives the edge to picardin.

"Picardin is a little more effective than DEET and seems to keep mosquitoes at a greater distance," he says. When people use DEET, mosquitoes may land on them but not bite. When they use a product containing picardin, mosquitoes are less likely to even land. Repellents with IR 3535 are slightly less effective, Strickman says, but they don’t have the strong smell of other products.

Then there is oil of lemon eucalyptus, or PMD, a natural oil extracted from the leaves and twigs of the lemon-scented gum eucalyptus plant, also recommended by the CDC. PMD is the ingredient in the oil that makes it repellent to insects. When researchers from New Mexico State University tested a variety of commercial products for their ability to repel mosquitoes, they found that a product containing lemon eucalyptus oil was about as effective and as long lasting as products containing DEET. "For some people, there’s a stigma to using chemicals on their skin. They prefer a more natural product," says Stacey Rodriguez, an author of the study published on Oct. 5, 2015, in the Journal of Insect Science.
Not all products deliver what they promise. "We tested a vitamin B1 skin patch," says Dr. Immo Hansen, professor at the Institute of Applied Biosciences at New Mexico State University and also an author of the study comparing repellents. "We didn't find any evidence that it has any effect on mosquitoes."

One surprising finding was that a perfume, Victoria's Secret Bombshell, was a pretty good repellent. Hansen and Rodriguez said they added it to the products they tested as a positive control, believing its floral scent would attract mosquitoes. It turned out bugs hated the smell. But in addition to the problem that few people would want to douse all their exposed skin in perfume, there is another impediment to researching many cosmetics: The ingredients are secret. "It's probably composed of dozens of secret ingredients, and maybe one or two of them are repellents," says Rodriguez. "We don't know what the active agent is."

How often should you reapply a repellent?

Generally, it's a good bet to follow the manufacturer's instructions, experts said. People who will be outside for an hour or two hour should be protected with, say, a product that contains a lower concentration of DEET (about 10 percent — identified on the label). Those who will be out in the woods, or jungle or marshland, should use a higher concentration of 20 to 25 percent, and refresh every four hours or so, says Dr. Jorge Rey, interim director of the Florida Medical Entomology Laboratory in Vero Beach. "The higher the concentration, the longer it lasts," says Rey.

And again, follow manufacturer's directions on the amount used. "A lot of people think that if a little is good, a lot is better," says Reisen. "You don't have to take a bath in the stuff."

What kind of clothing helps protect against bites?

When Rey goes on research trips to highly infested areas, like the Florida Everglades, he suits up. "We wear long pants and long-sleeved shirts," he says. "If it's particularly bad, we use hats with nets coming down over the face. And we depend on repellent on exposed areas." That could mean hands, neck and face. But don't spray the face, experts say. To avoid irritating the eyes, put the repellent on hands and rub it on the face.

And don't forget the feet. Mosquitoes have quirky olfactory preferences. Many of them, especially the Aedes variety that transmits the Zika virus, love the smell of feet.

"Wearing sandals isn't a good idea," says Rodriguez. Shoes and socks are called for, and tucking pants into socks or shoes helps keep mosquitoes from getting inside clothing. She wears long pants when outdoors in mosquito territory — and definitely not yoga pants. "Spandex is very mosquito friendly. They bite through it. I wear baggier pants and long sleeved shirts, doused in DEET."
Reisen adds high-topped boots and often work gloves to the mosquito prevention outfit. "Since I’m bald as a cucumber, I also wear a hat. I wear glasses, so more and more of me is getting covered."

Strickman lived in Thailand for a while, and he would start his day armed with a spray bottle of repellent. "I’d spray my socks, the lower part of my trousers and the upper part of my shoes," he says. "The mosquito that transmits Zika has a strong tendency to bite parts of the body that are near the ground."

What else can reduce the risk of mosquito bites?

Mosquitoes can bite at any time of day, but the one that transmits Zika prefers midmorning and early evening, says Strickman. If possible, stay indoors in screened-in or air-conditioned buildings during those times.

Since these particular mosquitoes breed in standing water in containers like plant pots, old tires, buckets and trash cans, people should rid their immediate area of things that can collect water. "Swimming pools, unless they’re abandoned, are OK," says Rey. The chemicals used to keep pools safe for swimming also keep mosquitoes away. It takes some close looking to find every possible breeding ground for mosquitoes. "I’ve seen some developing in a film of water next to a sink, or in the bottom of a glass people use to brush their teeth," says Strickman. Cleaning up all those areas of standing water can greatly reduce the number of mosquitoes. "It’s up to individuals to make their own backyards safe," says Rey. And their front yards and as much of their surrounding environment as possible.

The more people do that kind of basic cleanup, the fewer mosquitoes there will be. "It may not be perfect, but you’ll lower the number of mosquitoes tremendously," says Strickman.

Can you get to zero bites?

"There’s no way you’re going to prevent all the mosquitoes from biting, but you can reduce your chances of getting bitten," says Rodriguez.

And Rey is deeply concerned about Zika because of all that science doesn’t yet know about the virus. So he stresses how important it is to use the preventive efforts we have available.

"Your chances of getting infected with some mosquito-borne illness are never zero," he says. "You don’t change your lifestyle. But you take precautions."

**Clarification**

Jan. 30, 2016

An earlier version of this post had the headline “DEET-Containing Sprays Have Stronger Repellent Effects” for the chart. The headline has been changed to account for the effectiveness of one of the non-DEET repellents.