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1. THE EASTERN U.S. JUNIOR HIGHPOWER CLINIC AND CHAMPIONSHIP

The Eastern U.S. Junior Highpower Clinic and Championship will be held again this year at Camp Butner, North Carolina, 24-30 June. The Eastern U.S. Junior Highpower Clinic and Championship offers a full week of clinics, coaching and competition for junior service rifle competitors. Instruction and coaching will be provided by the USMC Rifle Team and the All-Guard Rifle Team. Juniors will fire one 600 yard Match, a 4x20 800 Aggregate, a Two-person Team Match (2x50), a 50-shot EIC Match and an Infantry Team Match during the five days of clinics and competition. The CMP will award EIC credit points based on results in the EIC match. For more information and on-line registration, visit <http://clubs.odcmp.com/cgi-bin/matchInfo.cgi?matchID=2421>.

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2. USAS PROGRESSIVE AIR PISTOL (PP) ALABAMA STATE JUNIOR OLYMPIC QUALIFIER RESULTS

The results for the 2007 USAS Progressive Air Pistol (PP) Alabama State Junior Olympic Qualifier are posted at [www.shelbysshootingsports.org](http://www.shelbysshootingsports.org) . Sam Richardson reports that it was a fun match for all - youth and parents. They may add this event to the Dixie Classic in February.

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3. AN INVASIVE PLANT THAT IS A REAL STINKER

An invasive plant that "elbows out" many native plants. Lots of people like garlic flavoring in their food but this alien, called Garlic Mustard, is a real stinker! This invasive plant elbows out many of our native woodland plants and changes the very habitat in which it lives. It can even produce chemicals that keep our native plants from growing nearby.

Garlic Mustard is a biennial which means that its first year it simply grows close to the ground and in its second year grows tall with flowers. People usually focus on the easy-to-identify flowering growth for removal and overlook the first year's growth right at their feet. Garlic Mustard seeds can wait five years before they sprout making it

more difficult to eliminate. <http://www.enaturalist.org/unit/247>

Source E-Naturalist

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#### 4. NEW EPA WEB SITE MAKES IT EASIER TO BE GOOD ENVIRONMENTAL STEWARDS

The new EPA Web site on stewardship programs can help business, government and private citizens make intelligent choices on sustainable environmental benefits. Simple everyday decisions by organizations and individuals on such issues as recycling, reuse or choice of fuel support pollution prevention and environmental stewardship.

The Web site will enable users to find EPA partnership programs, such as the Energy Star energy saving program, which best align with their needs and interests. Businesses can search for EPA programs based on their industrial category, environmental issue of interest, and geographic area. One specific Web site, for example, shows businesses how they can help employees reduce the environmental impacts of commuting.

The Web site also provides information links individuals can use to protect the environment in different settings, such as home, work, school and shopping. One Web site shows citizens how they can use pesticides safely.

EPA is now promoting environmental stewardship in a variety of ways. For example, the agency has challenged individuals to become more energy efficient at home through the "Change a Light, Change the World" campaign, and challenged Fortune 500 companies to double their purchases of green power. Examples at the local level include EPA offering communities technical assistance in applying smart growth principles, as well as providing funding to retrofit older diesel school buses with pollution control equipment. At colleges and universities, EPA is sponsoring research to help students develop and design innovative solutions to sustainability challenges in agriculture, water and energy use. <http://www.epa.gov/stewardship>

Source: Dave Ryan, (202) 564-4355 / [ryan.dave@epa.gov](mailto:ryan.dave@epa.gov)

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#### 5. SUNBURN PREVENTION

Avoid sun exposure--The best way to prevent a sunburn is to avoid sun exposure. Stay out of the midday sun (from 10 in the morning to 4 in the

afternoon), which is the strongest sunlight. Find shade if you need to be outdoors. You can also calculate how much ultraviolet (UV) exposure you are getting by using the shadow rule: A shadow that is longer than you are means UV exposure is low; a shadow that is shorter than you are means the UV exposure is high.

Other ways to protect yourself from the sun include wearing protective clothing, such as:

- Hats with wide 4 in. brims that cover your neck, ears, eyes, and scalp.
- Sunglasses with UV protection.
- Loose-fitting, tightly woven clothing that covers your arms and legs.

Preventing sun exposure in children--You should start protecting your child from the sun when he or she is a baby. Because children spend a lot of time outdoors playing, they get most of their lifetime sun exposure in their first 18 years.

- Keep babies younger than 6 months of age out of the sun. If sunscreen is needed, a small amount on the face or the back of the hands is not harmful.
- Teach children the ABCs of how to protect their skin from getting sunburned.
  - **A = Away.** Stay away from the sun in the middle of the day (from 10 in the morning to 4 in the afternoon).
  - **B = Block.** Use a sunscreen with a sun protection factor (SPF) of 30 or higher to protect babies' and children's very sensitive skin.
  - **C = Cover up.** Wear clothing that covers the skin, hats with wide brims, and sunglasses with UV protection. Even children 1 year old should wear sunglasses with UV protection.
  - **S = Speak out.** Teach others to protect their skin from sun damage.

Sunscreen protection--If you can't avoid being in the sun, use a sunscreen to help protect your skin while you are in the sun.

- Use a sunscreen that has a [sun protection factor \(SPF\)](#) of at least 30 or higher. Sunscreens that say "broad-spectrum" can protect the skin from ultraviolet A and B ([UVA and UVB](#)) rays. Sunscreens come in lotions, gels, creams, and ointments.
- Apply the sunscreen at least 30 minutes before going in the sun.
- Apply sunscreen to all the skin that will be exposed to the sun, including the nose, ears, neck, scalp, and lips. Sunscreen needs to be applied evenly over the skin and in the amount recommended on the label. Most

sunscreens are not completely effective because they are not applied correctly. It usually takes about 1 fl oz to cover an adult's body.

- Apply sunscreen every 2 to 3 hours while in the sun and after swimming or sweating a lot. The SPF value decreases if a person sweats heavily or is in water, because water on the skin reduces the amount of protection the sunscreen provides. Sunscreen effectiveness is also affected by the wind, humidity, and altitude.
- Use lip balm or cream that has sun protection factor (SPF) of 30 or higher to protect your lips from getting sunburned or developing cold sores.

Some sunscreens say they are water-resistant or waterproof and can protect for about 40 minutes in the sun if a person is doing a water activity. Apply sunscreen more often if you are in water. Wet skin can burn easily, so it is important to protect your skin even if you do not feel that you are getting sunburned. Wearing a T-shirt while swimming does not protect your skin unless sunscreen has also been applied to your skin under the T-shirt.

The following tips about sunscreen will help you use it more effectively:

- Older adults should always use a sunscreen with an SPF of at least 30 to protect their very sensitive skin.
- If you have sensitive skin that burns easily, use a sunscreen with an SPF of at least 30.
- If you have dry skin, use a cream or lotion sunscreen.
- If you have oily skin or you work in dusty or sandy conditions, use a gel, which dries on the skin without leaving a film.
- If your skin is sensitive to skin products, use a sunscreen that is free of chemicals and alcohol.
- If you have had a skin reaction (allergic reaction) to a sunscreen, look for one that is free of para-aminobenzoic acid (PABA), preservatives, and perfumes. These ingredients may cause skin reactions.
- If you are going to have high exposure to the sun, consider using a physical sunscreen (sunblock), such as zinc oxide, which will stop all sunlight from reaching the skin.
- If you need to use sunscreen and insect repellent with DEET, do not use a product that combines the two. You can apply sunscreen first and then apply the insect repellent with DEET, but the sunscreen needs to be reapplied every 2 hours.

Source: Web MD

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## 6. PREVENTING INSECT BITES

**Mosquitoes:** To prevent mosquito bites, wear long sleeves, long pants, hats and shoes (rather than sandals). Apply insect repellents judiciously to exposed

skin and clothing. Repellents containing *DEET (N,N-diethyl-3-methylbenzamide)* are recommended for areas where travelers may encounter potentially life-threatening mosquito-borne diseases, such as malaria and yellow fever.

Products containing lower concentrations of DEET are as effective as those with higher concentrations, but for shorter periods of time. On average, products containing 100% DEET will be effective for 9.5 hours, 30% DEET for 6.5 hours, 15% DEET for 5 hours, 10% DEET for 3 hours and 5% DEET for 2 hours. Controlled release preparations containing 20-35% DEET, such as Ultrathon (PDF), may be effective for 8-12 hours or more. Factors such as high temperature, humidity, sweating, and water exposure may reduce the duration of a repellent's effectiveness.

In general, adults and children greater than 12 years of age should use preparations containing 25-35% DEET. Preparations containing higher concentrations of DEET carry greater toxicity with little additional benefit. Children between 2 and 12 years of age should use preparations containing no more than 10% DEET, applied sparingly. If children require prolonged protection, it is safer to use low-concentration DEET, reapplied when needed, than to use high-concentration products. Neurologic toxicity has been reported from DEET, especially in children, but appears to be extremely uncommon and generally related to overuse. DEET-containing compounds should not be used on children under age two.

The Centers for Disease Control states that the recommendations for DEET use in pregnant women do not differ from those in nonpregnant adults.

Insect repellents should not be applied to eyes, mouth, cuts, wounds, or irritated skin. If this accidentally occurs, the affected area should be rinsed promptly with water. Do not apply to skin under clothing. Do not use repellents in enclosed, poorly ventilated areas or near food. Children should not be allowed to apply their own repellents. Do not apply to children's hands, since they may put these in their mouths. Insect repellents should be washed off with soap and water when no longer needed.

DEET-containing products may also be applied to garments, window screens, mosquito nets, tents, and sleeping bags, though care must be exercised, because DEET may damage certain plastics and synthetic fabrics. If DEET is applied to clothing, the garments should be washed before worn again.

A newly developed repellent called picaridin (Bayrepel) appears to be about as effective as DEET when used in comparable concentrations. Unlike DEET, picaridin does not have any odor or stickiness and does not have the potential to damage synthetic fibres. However, the only product currently marketed in the

United States (Cutter Advanced) contains only 7% picaridin, which requires reapplication every 3-4 hours, comparable to 10% DEET.

Though less effective, insect repellents containing certain botanical products may be an option when the duration of insect exposure is short or when the risk of contracting a serious infection from mosquito bites is small. A preliminary study in the *New England Journal of Medicine* found that those containing *oil of eucalyptus* (Fite Bite Plant-Based Insect Repellent, Travel Medicine; and Repel Lemon Eucalyptus Insect Repellent, WPC Brands) provided protection against mosquito bites for an average of two hours, and a product containing *soybean oil* (Bite Blocker for Kids, HOMS) was effective for an average of 90 minutes. By contrast, repellents based on *citronella* prevented bites for less than 20 minutes and are not recommended. Oil of lemon eucalyptus should not be used on children less than three years of age.

For additional protection against mosquito bites, products containing *permethrin*, a contact insecticide, may be applied to clothing, shoes, tents, and bed nets. Studies have shown that permethrin-impregnated bednets are more effective than untreated ones. When bed nets are not washed, the insecticide remains effective for several months. Even when items such as clothing are laundered, permethrin treatments remain effective for at least two weeks. Permethrin should be reapplied after every five washings. There is no significant toxicity when applied to clothing, but permethrin should not be applied directly to skin.

Sleeping quarters should be protected from mosquitoes. Windows should be closed or screened. If sleeping outdoors or in an accommodation that allows entry of mosquitoes, a bed net should be used, preferably impregnated with insect repellent, with edges tucked in under the mattress. The mesh size should be less than 1.5 mm. Mosquito nets can be purchased online from Long Road Travel Supplies. If sleeping in an area not otherwise protected, mosquito coils, which fill the room with a vapor of insecticide, may be useful. Coils which contain dichlorodiphenyltrichloroethane (DDT) should be used with caution.

Repellent-impregnated wristbands are not effective.

**Ticks:** Follow the same precautions as for mosquito bites, except that boots are preferable to shoes, with pants tucked in. In rural or forested areas, where most tick bites occur, perform a thorough tick check at the end of each day with the assistance of a friend or full-length mirror. Ticks should be removed with tweezers, grasping the tick by the head. Many tick-borne illnesses can be prevented by prompt tick removal. Insect repellents based on botanical products, described above, have not been adequately studied for insects other than mosquitoes and cannot be recommended at present to prevent tick bites.

**Sandflies:** Follow the same precautions as for mosquito bites, except that netting must be finer-mesh (at least 18 holes to the linear inch) since sandflies are smaller.

*If allergic to bites or stings,* be sure to bring along a self-administered epinephrine injection, such as EpiPen.

Source: Web MD

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## 7. DID YOU KNOW...? FACTS AND FIGURES ABOUT IRRIGATION

- The term 'irrigation' has been defined by the Food and Agriculture Organization of the United Nations (FAO) as the water artificially applied to soil and confined in time and space. It is thus possible to meet the water requirements of a crop at a given time of its vegetative cycle or to bring the soil to the desired moisture level outside the vegetative cycle.
- During the 20th century, the world population almost increased fourfold, while water used in agriculture through irrigation increased six-fold and some major rivers approached an advanced level of water depletion.
- Irrigated agriculture claims close to 70% of all freshwater withdrawn from its natural course.
- While irrigation withdraws about 2,300 km<sup>3</sup> of freshwater per year from rivers and aquifers, only about 900 km<sup>3</sup> is effectively consumed by crops.
- Irrigation is concentrated in arid and semi-arid areas (about 40%), where it a significant share of cropland is irrigated, and in the humid tropics of Southeast Asia, where it made it possible to move from one to two or even three harvests of rice per year.
- Out of the world's total land area of 13 billion hectares (ha), 12% is cultivated, and an estimated 27% is used for pasture. The 1.5 billion ha of cropland include 277 million ha of irrigated land, representing 18% of cropland.
- In 2030, irrigated agriculture should account for over 70% of the projected increase in cereal production in 93 developing countries. In these countries, the area equipped for irrigation is expected to expand by 20% (40 million ha) between 1998 and 2030. This projected increase in irrigated land is less than half of the increase of the preceding period (100 million ha). Thanks to increased cropping intensity, the area of harvested crops in irrigation is expected to increase by 34% by 2030. In the same period, the amount of freshwater that will be appropriated for irrigation is expected to grow by about 14% to 2,420 km<sup>3</sup> in 2030.
- Historically, irrigation represents between 70 and 80% of all

water uses, with some countries using 90% or more for irrigation. This percentage is changing as more and more countries face water shortages. It is estimated that over 1 billion people now live in countries and regions where there is insufficient water to meet food and other material needs.

- Irrigation is a direct source of livelihood for hundreds of millions of the rural poor in developing countries because of the food, income options and indirect benefits it generates.
- Irrigation development has caused numerous cases of soil and water salinization, which is mostly restricted to arid and semiarid areas. By withdrawing water from rivers for application on land, irrigation tends to accelerate the rate of accumulation of salts on land through evaporation and increase its concentration in rivers. It has been suggested that salinization seriously affects 20 to 30 million ha worldwide, that is, about 25% of the area under irrigation in arid and semi-arid zones and about 10% of all areas under irrigation.

Information from the FAO Glossary (<http://www.fao.org/glossary/>) and from the 2nd United Nations World Water Development Report: 'Water, a shared responsibility' ([http://www.unesco.org/water/wwap/wwdr2/table\\_contents.shtml](http://www.unesco.org/water/wwap/wwdr2/table_contents.shtml)).

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#### Publications Related to Irrigation

Irrigation in Africa, Europe and Latin America: Update of the digital global map of irrigation areas to Version 4

By Stefan Siebert, Jippe Hoogeveen, Karen Frenken; (c) 2006 Food and Agriculture Organization of the United Nations (FAO)

This publication reports on the last update of the Digital Global Map of Irrigation Areas for the continents of Africa and Europe as well as for the countries Argentina, Brazil, Mexico, Peru and Uruguay in Latin America. For this update, a new inventory of subnational irrigation statistics was compiled. The reference year for the statistics is 2000. In order to distribute the irrigation statistics per subnational unit, digital spatial data layers and printed maps were used. Irrigation maps were derived from project reports, irrigation subsector studies, and books related to irrigation and drainage. These maps were digitized and compared with satellite images of different regions.

:: Access the full publication [PDF format - 8.19 MB]

[http://www.geo.uni-frankfurt.de/ipg/ag/dl/f\\_publicationen/2006/FHP\\_05\\_Siebert\\_et\\_al\\_2006.pdf](http://www.geo.uni-frankfurt.de/ipg/ag/dl/f_publicationen/2006/FHP_05_Siebert_et_al_2006.pdf)

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Capacity development in irrigation and drainage: Issues, challenges and

the way ahead

By the Food and Agriculture Organization of the United Nations' Land and Water Development Division and the International Commission on Irrigation and Drainage (ICID); (c) 2004 Food and Agriculture Organization of the United Nations (FAO)

This report synthesizes the proceedings of the workshop 'Capacity building in irrigation, drainage and flood control' held in September 2003 alongside the congress of the International Commission on Irrigation and Drainage (ICID) in Montpellier, France. It was organized by the ICID Working Group on Capacity Building, Training and Education, in association with FAO, Alterra-ILRI and other supporting agencies, and sponsored by the FAO's Land and Water Development Division. Its goal was to highlight the important role of capacity development in the irrigation and drainage sector by presenting the current 'state of the art', the issues and challenges this raises, the approaches currently being taken and those needed in the future, and the facilitating role that agencies can play.

:: Access the full publication [PDF format - 610 KB]

<ftp://ftp.fao.org/docrep/fao/007/y5524e/y5524e00.pdf>

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Links About Irrigation

International Programme for Technology and Research in Irrigation and Drainage (IPTRID)

[http://www.fao.org/landandwater/iptrid/index\\_en.html](http://www.fao.org/landandwater/iptrid/index_en.html)

This programme hosted by FAO aims to improve the uptake of research, exchange of technology and management innovations by means of capacity development in the irrigation and drainage systems and sectors of developing countries to reduce poverty, enhance food security and improve livelihoods, while conserving the environment.

This website contains information on the programme, its partners, beneficiaries and strategy, events, projects, publications, knowledge systems, and a photo gallery.

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Aquastat

<http://www.fao.org/ag/agl/aglw/aquastat/main/index.stm>

AQUASTAT is FAO's global information system on water and agriculture, developed by the Land and Water Development Division. It collects, analyses and disseminates data and information by country and by region. This website contains a country database, a database on African dams and on river sediment yields, a glossary, a global map of irrigated areas consisting of a spatial dataset on areas equipped for irrigation, publications and links.

International Commission on Irrigation and Drainage (ICID)

<http://www.icid.org/>

ICID is dedicated to enhancing the worldwide supply of food and fibre by improving water and land management and the productivity of irrigated and drained lands through appropriate management of water, environment and application of irrigation, drainage and flood management techniques.

International Network on Participatory Irrigation Management (INPIM)

<http://www.inpim.org/>

INPIM is a global network promoting participatory irrigation management in irrigation and water resource management through the exchange of best practices, lessons learned, training materials and networking among professionals, researchers, policy makers and farmers.

This website contains information on Participatory Irrigation Management (PIM), documents, news, events and links.

:: For a complete list of water links around the world visit

[http://www.unesco.org/water/water\\_links/](http://www.unesco.org/water/water_links/)

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## 6. IN PRODUCING ETHANOL, SOME CORNSTALKS SHOULD BE LEFT IN THE FIELD

If conservation of soil organic matter is taken into account, the United States at best has to cut in half the amount of cornstalks that can be harvested to produce ethanol, according to an Agricultural Research Service (ARS) study.

Jane Johnson, a soil scientist with the ARS North Central Soil Conservation Research Laboratory in Morris, Minn., found that twice as many cornstalks have to be left in the field to maintain soil organic matter levels, compared to the amount of stalks needed only to prevent erosion.

This doesn't mean harvesting cornstalks for cellulosic ethanol isn't feasible--just that when you add soil organic matter concerns to erosion concerns, it slashes the amount of cornstalks available for conversion to ethanol. For example, 213-bushel-per-acre corn yields leave farmers an average four tons per acre of cornstalks after harvest. Farmers could then harvest about two tons of cornstalks per acre for conversion to ethanol--but only from land with low erosion risks, using little or no tillage.

If the same farmers rotate with soybeans as recommended, they can only

remove half again as much biomass for ethanol production, or just one ton per acre, to compensate for the lower biomass left by soybeans.

Johnson's estimates are part of the Renewable Energy Assessment Project (REAP), formally created in 2006, although she and a core group of colleagues have worked on these measurements for several years prior.

REAP was formed to ensure that cellulosic ethanol programs will be sustainable. Most participants work with corn, but others work on switchgrass for cellulosic ethanol. When cellulosic ethanol is made from corn, it uses cornstalks as well as grain.

There are nine ARS locations participating in REAP in eight states, from Alabama to Indiana to Oregon.

The new program also aims to compare the economic value of biomass for bioenergy versus its value for storing soil carbon. REAP will provide guidelines on harvesting biomass to corn farmers, land managers, the biomass industry and action agencies.

Johnson also explored the use of a byproduct of ethanol fermentation as an organic additive to soils. This is an example of the innovations needed to support residue removal.

View this report online, plus photos and related stories, at [www.ars.usda.gov/is/pr](http://www.ars.usda.gov/is/pr) .

Source: Agricultural Research Service, USDA  
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