

## Washington Report by Lee Van Wychen, Ph.D., Director of Science Policy

Noxious Weed? Invasive Plant? Volunteer Crop?

Recently, I have been dealing with a number of increasing issues concerning the classification of weeds that may greatly impact the mission of the National and Regional Weed Science Societies. The mission of the WSSA ([www.wssa.net](http://www.wssa.net)) is to:

- 1) Promote research, education, and extension outreach activities related to weeds;
- 2) Provide science-based information to the public and policy makers;
- 3) Foster awareness of weeds and their impacts on managed and natural ecosystems.

As a weed scientist, I sometimes struggle with the various classifications of weeds such as noxious, exotic, invasive, alien, nonnative, nonindigenous, volunteer crop and my favorite- plant out of place (no acronym necessary).

However, I believe there is a very important role for the weed science societies to help standardize science-based classifications for the public and policy makers as we foster the awareness of weeds and their impacts on both managed and natural ecosystems through research, education, and extension outreach activities.

Of all the classifications of weeds above, a "noxious" weed is the most straightforward because it's a legal term (7 U.S.C. 7702(10)) defined in the Plant Protection Act (Public Law 106- 224). The term 'noxious weed' means any plant or plant product that can directly or indirectly injure or cause damage to crops (including nursery stock or plant products), livestock, poultry, or other interests of agriculture, irrigation, navigation, the natural resources of the United States, the public health, or the environment. In other words, a noxious weed is any plant designated by a Federal, State or county government as injurious to public health, agriculture, recreation, wildlife or property. There is a well-defined federal process for both listing and delisting plants as federal noxious weeds that is conducted through USDA APHIS. For more info see:

[http://www.aphis.usda.gov/plant\\_health/plant\\_pest\\_info/weeds/index.shtml](http://www.aphis.usda.gov/plant_health/plant_pest_info/weeds/index.shtml)

The word "invasive" is at the forefront of this discussion. What is an invasive weed or invasive plant? There is no mention of "invasive" or "exotic" or "alien" in the Plant Protection Act. Yet, the term invasive weed is increasingly popular in new federal legislation being introduced in the House and Senate (see below). The WSSA will be issuing a new journal during the first quarter of 2008 titled "Invasive Plant Science and Management". The WSSA is also a major stakeholder in conducting the National Invasive Weeds Awareness Week (NIWAW). Certainly, people seem to "get" the invasive species message because the "message" has been out there much longer thanks to our fellow pest control colleagues working in entomology and plant pathology. Mission statement #2 above is a much easier to convey when I talk to people in Washington DC about "invasive plants" vs. "weeds".

In the 2002 National Research Council report titled "Predicting Invasions of Nonindigenous Plants and Plant Pests" (<http://www.nap.edu/catalog/10259.html>), a biological invasion is defined as a phenomenon in which a nonindigenous species arrives in a new range in which it establishes, proliferates, spreads, and causes broadly-defined detrimental consequences in the environment. Executive Order 13112, signed by President Clinton in 1999, defines an invasive species as "an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health." The Invasive Species Advisory Committee (ISAC) to the National Invasive Species Council (NISC) issued an excellent white paper on invasive species definition clarifications last year. This paper can be found at: <http://www.invasivespeciesinfo.gov/docs/council/isacdef.pdf>

The ISAC definitions white paper was intended to provide a non-regulatory policy interpretation of the term invasive species by identifying what is meant, and just as important, what is not meant by the term. Some of the key conclusions of this paper are:

- 1) Invasive species are those that are not native to the ecosystem under consideration and that cause or are likely to cause economic or environmental harm or harm to human, animal, or plant health.
- 2) Plant and animal species under domestication or cultivation and under human control are not invasive species.
- 3) Furthermore for policy purposes, to be considered invasive, the negative impacts caused by a non-native species will be deemed to outweigh the beneficial effects it provides.

This leads me to my last point, or rather question: Do the National and Regional Weed Science Societies need to adopt a standard definition or criteria for an "invasive plant"?

- 1) Are all weeds invasive plants?
- 2) Are all invasive plants weeds?
- 3) Are all noxious weeds invasive plants?

As I mentioned at the beginning of this article, there can be confusion associated with all the various terms used to describe a weed. What is most troubling is that many people in our discipline would have no trouble stating a definitive "yes or no" answer to the above three questions, yet the general public is exposed to many different definitions and classifications. For example, you can go to the USDA Natural Resource Conservation Service (NRCS) Plants Database (<http://plants.usda.gov/index.html>) and look up "Invasive and Noxious Weeds" (<http://plants.usda.gov/java/noxiousDriver>).

As you scroll down the "Invasive and Noxious Weeds" page and start searching for different weeds, you also find that crops like corn, soybeans, cotton, rice, wheat, and alfalfa are listed with the description "This plant can be weedy or invasive according to the authoritative sources noted below."

Can volunteer crop be weedy? Can a volunteer crop be invasive?

Whether or not a species is considered an invasive species depends largely on human values. Do the National and Regional Weed Science Societies need to make a distinction between an "invasive plant" and a "weed"? That is for you to decide.

#### House Action on the 2007 Farm Bill

During the week of May 21-25, the House Agriculture Subcommittee on Conservation, Credit, Energy & Research passed legislation on to the full House Agriculture Committee regarding its jurisdiction in the 2007 Farm Bill. This was the first action in either the House or Senate. In February at the WSSA annual meeting, the WSSA was very fortunate to have Dr. Gale Buchanan, USDA Under Secretary for Research, Education, and Economics present the Administration's proposal for the 2007 Farm Bill. The House Agriculture Committee 2007 Farm Bill draft language can be found at: <http://agriculture.house.gov/inside/2007FarmBill.html>. This site provides a breakdown by each subcommittee of the different Farm Bill Titles as they become available.

The Research Title is a potpourri of the various proposals (The Administration, CREATE-21 and NIFA) that have been introduced up to this point. The bad news is that there is no mention of doubling agricultural research funding. This was a primary goal of the CREATE-21 and NIFA proposals. However, the good news is that the House version of the Farm Bill proposal adopted the Administration's proposal that includes \$50 million per year for the agricultural bioenergy and biobased products research initiative and \$100 million per year for the specialty crops research initiative. Unlike the Administration's or the CREATE-21 proposal, there would be no merger of the Research Education and Economics Agencies (CSREES, ARS, ERS or FS R&D) in the House Farm Bill proposal.

The National Agricultural Research, Extension, Education, and Economics (NAREEE) Advisory Board would be retained as the principal vehicle for stakeholder input, while also adding the Agricultural Research Institute concept being championed in the CREATE-21 proposal. In the House Farm Bill proposal, the Agricultural Research Institute will coordinate the programs and activities of the research agencies through the following six institutes:

- 1) Renewable energy, resources, and environment
- 2) Food safety, nutrition, and health
- 3) Plant health and production
- 4) Animal health and production
- 5) Agriculture systems and technology
- 6) Agriculture economics and rural communities

Each research institute will have a Director appointed by the Under Secretary, and will formulate programs, develop strategic planning and priorities for department-wide research, education, extension and related activities. The Under

Secretary, along with the Directors and in consultation with the NAREEE Advisory Board, will direct research, education, extension, and related programs for relevant departmental agencies, and ensure that strategies and funds are coordinated throughout.

Finally, the a National Institute of Food and Agriculture (NIFA) would be established, but only under CSREES, to administer all competitive grants including the National Research Initiative (NRI), which is re-authorized at \$500 million per year.

In the **Conservation Title** released by the House Agriculture Committee a couple of brief invasive species highlights include:

- a provision that would allow a producer to conduct prescribed grazing for the control of invasive species on Conservation Reserve Program (CRP) lands.
- Amending the Environmental Quality Incentives Program (EQIP) to include the promotion of forest management and energy conservation. Forest management practices are defined as activities that may be needed to improve water quality, increase in-stream flows, restore forest biodiversity, or control invasive species.

"Noxious Weed" and "Invasive Plant" Related Legislation in the 110th Congress There is much political posturing occurring and legislation being introduced that includes various aspects of noxious weed and invasive species provisions related to the 2007 Farm

Bill debate. Below is a brief list of some noteworthy legislation:

- S. 1160 - Specialty Crops Competition Act of 2007 introduced by Sen. Debbie Stabenow (MI) on April 19 with 8 co-sponsors. establishes an invasive pest threat identification and mitigation program (including noxious weeds) authorized at \$40 million per year carries out an integrated pest management Initiative amends the Homeland Security Act of 2002 to restore import and entry agricultural inspection functions to the Department of Agriculture. Establishes the international agricultural inspection program within the Animal and Plant Health Inspection Service (APHIS)
- S. 1242 - A bill to amend the Federal Crop Insurance Act and 2002 Farm Bill to establish a biofuel pilot program to offer crop insurance to producers of experimental biofuel crops. Introduced by Sen. Jon Tester (MT) on April 26. Defines the term and conditions for an "experimental biofuel crop" to include a determination by USDA demonstrating that there are sufficient safeguards to prevent the spread of the crop as a noxious weed
- H.R. 1600 - Equitable Agriculture Today for a Healthy America Act introduced by Rep. Dennis Cardoza (CA) on March 20 and now has 115 co-sponsors. Includes many similar provisions as in S. 1160 above as well as a section titled "Invasive Pests and Diseases". Authorizes \$50 million per year for an "Early Pest Detection and Surveillance Improvement Program". However, they define "pest" according to the legal definition given "plant pest" in the Plant Protection Act (7 U.S.C. 7702(14)) – just a few lines of text below the definition for "noxious weed". For the record, the legal term 'plant pest' means any living stage of any of the following that can directly or indirectly injure, cause damage to, or cause disease in any plant or plant product: (A) A protozoan; (B) A nonhuman animal; (C) A parasitic plant; (D) A bacterium; (E) A fungus; (F) A virus or viroid; (G) An infectious agent or other pathogen; (H) Any article similar to or allied with any of the articles specified in the preceding subparagraphs.
- H.R. 620 - Rep. Olver (MA), S. 280 – Sen. Lieberman (CT), and S. 317 – Sen. Feinstein (CA) – Three related bills with a goal to reduce greenhouse gas emissions in the U.S. by establishing a market-driven system of greenhouse gas tradeable allowances.
  - Sen. Feinstein's bill, S. 317, is more specific than the other two bills and would amend the Clean Air Act to establish a program to regulate the emission of greenhouse gases from electric utilities.
  - Most notably, Sen. Feinstein's bill is the only one to mention invasive species and noxious weeds. Invasive species in S. 317 is defined as a species (including pathogens, seeds, spores, or any other biological material relating to a species) introduction of which causes or is likely to cause economic or environmental harm or harm to human health.
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In Sen. Feinstein's bill, greenhouse gas reductions projects from agricultural, forestry, wetlands, and other land use-related sequestration projects may only receive offset credits if native plant materials are given primary consideration and Federal- or State designated noxious weeds or use of a species listed by a regional or State invasive plant councils within the applicable region or State are prohibited.

- S. 725 - National Aquatic Invasive Species Act of 2007 introduced by Sen. Carl Levin (MI) on March 1. This bill would amend the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 to establish aquatic invasive species reduction and prevention requirements for vessels (including towed vessels and structures) operating in U.S. waters.

- Definitions (in relation to this bill): "Invasion" is defined as an infestation of an aquatic invasive species; "Invasive Species" is defined as a nonindigenous species the introduction of which into an ecosystem may cause harm to the economy, environment, human health, recreation, or public welfare; "nonindigenous species" is defined as any species in an ecosystem the range of which exceeds the historic range of the species in that ecosystem.

- Some of the main priorities listed in S. 725 include: Requires the National Invasive Species Council (NISC) to establish a federal rapid

- response team for each of the ten federal regions; Directs the Aquatic Nuisance Species Task Force (ANSTF) to establish a priority pathway management program that identifies those pathways that pose the highest risk for the introduction of aquatic invasive species; and requires the National Science Foundation (NSF) to establish a grant program for researchers at institutions of higher education and museums to carry out research in systematics and taxonomy.

- The bill would cost about \$150 million per year if the authorized funding was fully appropriated.