



ASSOCIATION *of*
FISH & WILDLIFE
AGENCIES

**Deer Immunocontraceptive Working Group
Meeting Summary and Products
March 2007**

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Summary of Working Group Recommendations

USDA-APHIS Wildlife Services (Wildlife Services) is proposing the registration with the Environmental Protection Agency (EPA) of a new single-shot, multiyear contraceptive for white-tailed deer known as Gonadotropin-releasing hormone (GnRH) or Gonacon™. Wildlife agencies are concerned about this product for a variety of reasons, some scientific but also social and economic. The scientific concerns include the adequacy of the research conducted to date, affects on cervid species other than white-tail deer, long-term multi-dose effects, consequences of treatment failure, and reproductive and developmental effects. Most of these, with time, can be addressed. The social and economic concerns are much more problematic and elevate this issue with wildlife agencies. Social and political issues include but are not limited to:

- Whether intended or not, a premier wildlife species (white-tail deer) is being designated as a pest species and will be treated with a pesticide.
- Inadequate regulatory authority could result in misapplication of the product.
- The availability of this product will divert attention to its use in many situations where efficacy is unlikely.
- Application of this product is extremely expensive and time intensive; and would require a huge commitment of scarce resources, particularly if not used in conjunction with lethal removal or over large areas.
- Groups and individuals will use this product as an excuse for a new round of ethical attacks on regulated public hunting.
- Although some states have indicated they have situations where use of this product is warranted, it will likely become a “litmus test” with some hunting groups over agency support of hunting.

The overall recommendation of the working group is that Wildlife Services delay registration of this product until the items outlined above are addressed, including more time for state agencies to address the social and economic issues. In addition to this overarching recommendation, the working group also recommends the following:

- The Association of Fish and Wildlife Agencies (Association) requests additional research to assess long term efficacy, health, and safety of this product on all cervids (free ranging populations).
- The Association requests an outside peer review of data and existing literature.
- If registration proceeds, the product should be registered for white-tail deer only, not all cervids.
- The Association seeks to have immunononcontraceptive vaccine registration moved back to FDA.
- Wildlife Services adopts a policy change so that Wildlife Services State Director is required to notify the state fish and wildlife agency if a request for use of the product has been submitted in that state.
- The Association distributes survey results with cover letter encouraging states to update rules and statutes.

- The Association should encourage state agencies to contact their state attorney general to ensure adequate authority.
- The Association encourages state agencies to develop a working relationship with the state pesticide regulatory agencies that will be approving use of this product in the state and seek additional authority to be a part of the approval process (Memorandum of understanding (MOU) or legislative authority)
 - Need to find a way to ensure that the approval process requires both the state fish and wildlife agencies and state pesticide regulatory agencies to determine registration requirements and decision making.
 - Can state fish and wildlife agencies require permit, additional research, or specific needs be met before use?
 - Additional training required for applicants to use immunocontraceptives in their state? Level of expertise with the species and/or delivery method?
 - Additional state label written by wildlife agency?
- The Association creates and provides best management practices (BMP), talking points, and other outreach materials so that the state fish and wildlife agencies have a consistent and clear messages.
- The Association requests Wildlife Services provide an up-to-date, comprehensive summary of ongoing research studies on Gonacon™ that includes date, location, sample sizes, and duration, as well as a list of references for publications or progress reports.
- The Association requests Wildlife Services would like to request that submission of a registration package be held off until there are results from ongoing studies (elk studies, Giraldi Farms (NJ), and fallow deer) before moving for all cervid registration?
- In addition to these recommendations, the working group identified additional research needs and concerns regarding the registration of Gonacon™.
- *In utero* reproductive & developmental effects (on female & male offspring born to treated females).
- Effects in other cervid species (none published to date).
- Long-term/multidose effects (e.g., annual vaccination over several years) on:
 1. Reproduction (frequency of “recovery” vs. number of boosts).
 2. Survival (effects of single & multiple doses on survival, as compared to untreated cohorts – e.g., see Killian et al. 2005).
- Frequency, explanation for, and consequences of treatment failure (e.g. selection for immune deficient individuals?).
- Additional data on efficacy
 - Examples:
 - The sample sizes are small and within that small sample a good bit of variable results.
 - Efficacy of darts to deliver vaccine to target population.
 - Possible to follow up on initial FDA study animals if still alive in order to dispel concerns over long term impact to health?

- Based on the FDA letter request a follow up on the granulomas and the possibility that they might render the meat non-consumptive?
- Lack of peer review publication of research to date.
 - Attempts to find peer reviewed literature via ISI Web of Science and NISC BiblioLine only identifies one early paper on Gonacon™ (Miller et al. 2000), and two others (Curtis et al. 2002; Killian et al. 2005) published in other (relatively inaccessible) outlets.

There is sometimes confusion over the “efficacy” of a contraceptive compound. Efficacy can be thought of to mean the percent of treated animals that do not reproduce, or the overall ability of a contraception program to reduce, stabilize, or slow growth in an animal population. The former usage is appropriate for controlled studies of captive animals, but we must think in terms of the latter definition when talking about the use of immunocontraceptives in wild, free-ranging animal populations.

Most population modeling of contraceptive use in white-tailed deer shows more than 80 percent of the females in the population must be rendered infertile on an annual basis to achieve the stated population objective. If less than 100 percent of the treated animals become infertile to start with (as is clearly the case), you would have to treat more than 80 percent of the females. To effectively treat almost all of the females in a population, the applicator would have to have a way of determining which animals had already been treated. This requires the capture of each animal with a tranquilizer dart to hand-inject the Gonacon™ and mark the deer as treated. Remote administration of the drug via darts would require simultaneous remote marking, which is not feasible under field conditions. The capture of deer in this manner would cost >\$1,000 deer. It must be clear that the applicators (not the wildlife agency) would be responsible for these costs. If the deer density was not drastically reduced by some method, or combination of methods, the problems associated with cervid overpopulation would persist.

EPA is primarily interested in human safety and the integrity of the environment and much less concerned with efficacy under field conditions. It will be up to the users to determine if a method will work in any given application situation. EPA requirements were not as stringent as FDA, and Wildlife Services staff fulfilled the requirements and are proceeding with the registration process. Although the need for more research seems apparent, Wildlife Services research staff stated that they may not be doing much research after registration unless money becomes available from outside sources. This leaves it up to the state fish and wildlife agencies to do the research that determines whether it is the panacea that it will be portrayed by some to be.

The Working Group wishes to express its appreciation to Bill Clay and the staff of Wildlife Services and USDA National Wildlife Research Center (NWRC) who worked with us as partners as we performed this work. Although we may not agree with them on aspects of this product, they devoted staff time and resources including funding to work through this difficult issue.

Association of Fish and Wildlife Agencies Gonacon™ Working Group

Chair: Alan Clark, Utah

AFWA Staff: Amber Pairis

Membership:

Northeast Region	Larry Herrighty, New Jersey Howard Kilpatrick, Connecticut
Southeast Region	Gary Moody, Alabama
Midwest Region	Dale Garner, Iowa
Western Region	Jim Heffelfinger, Arizona Mike Miller, Colorado

Purpose: The working group is being established under the authority of the Wildlife Resource Policy Committee and the Human-Wildlife Conflict Working Group of the Association to work with Wildlife Services on the development of label language, management protocols, information to the states, and additional recommendations regarding Gonacon™, an immunocontraceptive product developed for wild cervids.

Background Information:

The development of fertility control products for white-tailed deer have been ongoing for many years. Recently, the federal oversight and registration for fertility control agents for wildlife and feral animals was moved from the FDA to the EPA. As such, there are different (less stringent) standards that need to be met for the registration and broad-based use of immunocontraceptive agents. Wildlife Services has made significant advancement in the development of a single dose agent that appears to have high levels of efficacy in the last 3–4 years. In addition, a new adjuvant (i.e. a compound added to the drug to enhance its efficacy) is being used which does not have the undesirable effects previous adjuvants have possessed.

A forum was recently held at the Association's annual meeting in Snowmass to discuss an immunocontraceptive vaccine in deer. The forum was well attended with opening remarks from John Cooper (former President of the Association and Secretary of South Dakota Game, Fish and Parks Department), presentations from Wildlife Services, representatives from state fish and wildlife agencies in Colorado and Connecticut, and a survey from the Northeast Deer Technical Committee. Scientists with the USDA National Wildlife Research Center (NWRC) were present to discuss the new single-shot, multiyear contraceptive for white-tailed deer known as Gonadotropin-releasing hormone (GnRH) or Gonacon™.

Wildlife Services was very clear that they did not see this technology as a replacement for hunting in managing cervid populations but a tool that could potentially be used after a population has been reduced through traditional methods. While no final decision has been made regarding the registration or use of this product, NWRC scientists anticipate

that Gonacon™ will be registered as a "Restricted Use" product, for use by state or federal wildlife or natural resource management personnel or persons working under their authority. Gonacon™ users will also need to follow state authorization processes.

At the Association's Business Meeting in September 2006, the Human-Wildlife Conflict Working Group under the direction of the Wildlife Resource Policy Committee was asked to work with Wildlife Services and bring recommendations to the Association at the North American Conference in March 2007. The Human-Wildlife Conflict Working Group was authorized to establish a smaller task group to focus on this assignment.

USDA has agreed to hold off on the submission of the label to EPA until after the North American meeting in March to allow time to work with the Association in the development of label language and management protocols. In addition, state fish and wildlife agencies will have an opportunity to address regulatory gaps and outreach messages in hunters and hunting groups.

Charge to Task Group:

1. Work with Wildlife Services staff to develop the label language.
2. Work with Wildlife Services staff to develop management protocols and best practices for the use of Gonacon™.
3. Prepare recommendations to Wildlife Services for additional field testing, if necessary.
4. Review completed survey of state fish and wildlife agencies, review state statutes and regulations to regulate use of immunocontraceptive agents, and recommend base level regulations or statutes to be used by states.
5. Identify and recommend outreach messages for states to use with interested publics including hunting organizations.
6. Clarify the effect of label language on use by federal agencies within a state.

Gonacon Working Group Meeting: Fort Collins, CO January 16-17, 2007

Goals:

- Information exchange
- Label language
- Creation of BMP's
- Outreach products

Notes of interest from APHIS-WS presentations on research and registration

- Label identifies the use of Gonacon™ on all cervids - not restricted to white-tailed deer
- This vaccine will be registered as a “pesticide” for use on a “pest.” The process and evaluation of the product is different from that required by FDA for other types of compounds.
- Efficacy trials required by EPA are limited to one study. Efficacy trials to date have resulted in 47% efficacy (MA study) and 70% (Penn State).
- Some animals vaccinated with Gonacon™ may become sterile.
- Bison study - Gonacon™ given to pregnant bison and they carried their offspring to term. Based on this sample size of 4-6, Gonacon™ does not appear to have an impact on fetus or pregnancy.
- On-going research includes:
 - Efficacy of use on elk in Colorado and Wyoming.
 - Additional field studies with NPS on Pt Reyes with Fallow deer.

Registration Process

- Since this product will be registered with the EPA, it cannot be used on captive, zoo, or companion animals (requires FDA approval process).
- Different authorities may have control over deciding use in a State: State Agriculture offices regulate state pesticide registration in many states.
- State pesticide regulatory agencies may also register products for special local use.
- After being registered for use in cervids, it can be expanded to use in other species by providing some basic research to make sure it is safe to humans and the environment.
 - Some states have already had groups ask why they are not using this on all bears captured for research and for nuisance.
- Once the registration request is submitted to EPA there will be approximately an 18 month review. Once EPA approves, it is up to the State pesticide regulatory authority to evaluate and approve use.
- Once this is registered for use in cervids, any application on federal lands or with federal dollars would have to go through NEPA.
- Registered as a “Restricted Use” product means any users would have to be a state certified pesticide applicator.

- Registration is a national process, but the state pesticide regulatory agency has the right to deny the use of an EPA-approved product in their state. State regulatory agency can further restrict use in the state by writing their own label other restrictions, but it is not always clear how the state fish and wildlife agencies can insert themselves in this loop.

Comments and Concerns Voiced by the Working Group at the Fort Collins Meeting

- Small sample size of primary data going to EPA to register product.
- Lack of long term data on mortality-autoimmune disease issues.
- Lack of population modeling with the efficacy data for this product for cervid species in question to determine number of individuals that would need to be inoculated for the vaccine to be effective in population control.
- The timing of application and potential vertical transmission to offspring of treated females and effects in utero.
- Information on efficacy of delivery methods including efficacy of darts to deliver vaccine to target population.
- Current publications of supporting materials are largely published as proceedings from conferences rather than peer reviewed journals.
- How do we insure that state fish and wildlife agencies play a role in the state registration process?
- Once the product is approved how to insure that requests for use on additional species are regulated through the state fish and wildlife agencies.
- Since deer are not traditionally identified as a pest species and the Gonacon™ Vaccine is not a traditional pesticide, is EPA the appropriate entity to register?
- Should the Association request an additional outside peer review and/or identify additional reviewers with expertise in this area to review data.
- The working group focused on inserting language into the label so that state fish and wildlife agencies have complete control over the use of this product in their state.
- With an immunocontraceptive, you are sterilizing the animals that have a fully functioning immune system (the immune system shuts down sex hormones), but the animals that may not have a healthy immune system are not fully sterilized and thus you have a population where the only animals breeding are those with faulty immune systems. It is unlikely to be an issue because there will be almost no cases where a large majority of the population is treated.
- Affects on the fetus' future fertility. If it causes permanent sterility when the fawns/calves mature, then that would have a much larger effect on future population dynamics. Again this is all assuming a large percent of the population would be treated by individually darting animals in a free-ranging population.
- No research has been done on whether this affects pelage (hair) molt. Treating males causes profound antler deformities due to the interruption of gonadotropins and the hair molt is usually affected by anything that affects antlerogenesis.
- NWRC staff and other experts say that to really affect a free-ranging population cost efficiently, you need to deliver it orally at bait sites. NWRC staff is in the

early stages of working on an oral application (they need to encapsulate it in something that resists digestion and allows it to reach the bloodstream). The working group suggests that if this were to move forward it would require an oral delivery system that would restrict delivery to non-targets and restrict male cervids from ingesting.

- The EPA requires a study of safety and toxicity. NWRC staff are submitting a five month study to satisfy the EPA requirement to study safety and toxicity. A study on Gonacon™ use on male whitetails showed they had a significantly higher incidence of pulmonary disease than untreated males (no difference in females). There could be some long-term negative health issues with Gonacon™ that were not discovered in one 5-month study.
- Why the race to registration? The final report on the field study on Giralda Farms is not due until fall 2009. NWRC staff said they have been working on contraceptives for 15 years and don't see this as premature. In reality, they have only been working on Gonacon™ for a few years and have only 1-4 years of research on its efficacy with small sample sizes. There are 2 studies being done on elk and both are only about 1-2 years into the research. Both seem to be showing that this works the same on elk as it does on deer.
- Concern that registering this vaccine with EPA extends the definition of pesticide to define deer as "pests" and is only for use in free ranging populations (no use on captive animals).

Requests to APHIS-WS at Fort Collins Meeting

- Working group requests APHIS-WS to provide documentation of Gonacon's™ safety for human consumption from the FDA. (Provided)
- Working group requests a description of the internal APHIS-WS peer review process that all Gonacon™ studies have been submitted.
- Working group requests APHIS-WS to publish a paper on this product that reiterates its use as one of many management tools that has to be used in conjunction with other approaches such as hunting. Request that this article be submitted to a high profile journal such as Bioscience.
- Working group requests APHIS-WS to provide documentation on the results of the elk study.
- APHIS-WS will request a policy change that State APHIS-WS will notify the State Wildlife Agency if a request for use has been submitted for registration in that State.
- The working group will collaborate with APHIS-WS to provide input on the technical note that will accompany the vaccine. A draft of the tech notes will be provided by APHIS-WS by March for the working group to add comments. The tech note should address:
 1. State fish and wildlife agencies perspective on use of this product as a management tool.
 2. Scenarios where this product might be useful.

3. Quantifiable models that give the user an idea of what they can expect from the product (efficacy, side effects, uncertainties, etc from the published research).
4. Technical notes should disclose the side effects for use of this product on males.

Gonacon™ Label Language

RESTRICTED USE PESTICIDE

DUE TO NON-TARGET INJECTION HAZARD

For use by state wildlife agency personnel or federal wildlife or natural resource agency personnel or persons working under their authority.

**GONACON™
IMMUNOCONTRACEPTIVE VACCINE**

Immunocontraceptive vaccine for use in female cervids

ACTIVE INGREDIENT

Mammalian Gonadotropin Releasing Hormone.....0.03%

OTHER INGREDIENTS.....99.97%

TOTAL.....100.000%

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

First Aid

If swallowed -Call a doctor, poison control center or 1-800-228-2635 ext. 136 immediately for treatment advice.
-Have person sip a glass of water if able to swallow.
-Do not give anything by mouth to an unconscious person.

If in eyes -Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
-Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or when going for treatment.

PRECAUTIONARY STATEMENTS

**HAZARDS TO HUMANS AND
DOMESTIC ANIMALS**

Keep away from humans, domestic animals and pets. Wear protective gloves when handling. If pregnant, do not handle or administer product. Wash all implements used for handling or applying product with detergent and water. Do not use these implements for mixing, holding, or transferring food or feed.

ENVIRONMENTAL HAZARDS

Do not apply this product directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- long sleeved shirt and long pants
- gloves
- shoes plus socks

USE RESTRICTIONS

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. A copy of this label must be in the possession of the user at the time that the product is applied.

READ THIS LABEL: Read this entire label and follow all use directions and precautions.

IMPORTANT: Do not expose children, pets, or other non-target animals to this product. To help prevent accidents:

- 1) Keep children out of areas where this product is used.
- 2) Store product not in use in a location out of reach of children and pets.
- 3) Apply product only according to the directions authorized.
- 4) Dispose of product container and unused, spoiled, or unused product as specified in the "STORAGE AND DISPOSAL" section on this label.

This product is for use in female cervids.

Caution is required to prevent accidental self-injection when administering GonaCon™ immunocontraceptive vaccine.

Pregnant women should not be involved in the handling or injection of GonaCon™. Do not ingest. Avoid contact with eyes.

Do not apply this product to food or feed.

Applicators should be aware that additional State regulations (including wildlife laws) and permitting may apply to the use of this product. All applicable State authorities must be contacted prior to use.

Please refer to the USDA TechNote for this product for additional information regarding the use of GonaCon™ (<http://www.aphis.usda.gov/ws/nwrc/research/registration.html>).

DIRECTIONS FOR USE

GonaCon™ is intended to be used in combination with other population management techniques.

GonaCon™ is intended to render a treated female infertile for a minimum of one year following vaccination.

GonaCon™ Immunocontraceptive Vaccine is for use in female cervids 1 year of age or older.

GonaCon™ will not affect existing pregnancy, but should cause infertility of the treated animal in subsequent years.

A single vaccination (1 ml) of GonaCon™ should be administered at least two to three months prior to the onset of rut for full contraceptive effect.

If longer contraceptive effect is desired, a second vaccination may be given 30 to 60 days after the first injection or during the following year with no known adverse health effects to the vaccinated animals.

Throughout a period of a few years, as the effect of the vaccine wears off, treated females may once again become fertile.

However, re-immunization with GonaCon™ can extend infertility.

There is a chance some treated females will become permanently sterile.

Accidental injection of males will result in antler deformities and infertility.

GonaCon™ can be administered by either hand or remote injection.

For hand injection, one-milliliter (1 ml) doses of GonaCon™ are packaged in pre-loaded 3-ml Air-Tite™ lure-hub syringes equipped with a 1-inch, 19-gauge hypodermic needle.

Each female should receive 1.0 ml of GonaCon™ by intramuscular injection into a large muscle mass.

For remote injection, GonaCon™ is bulk packaged for filling individual darts prior to use.

For remote injection load 1.5 ml of GonaCon™ into auto injection darts.

Dart should be delivered into a large muscle mass.

Darts must be individually labeled with the following language.

<p style="text-align: center;">Restricted Use: Injection Hazards CAUTION Gonacon™ Immunocontraceptive Vaccine Active Ingredient: Gonadotropin Releasing Hormone (0.03%) KEEP OUT OF REACH OF CHILDREN EPA Reg. No. 56228-xx, EPA Est. No. 26228-ID-1 See Full Product Label for Application Instructions.</p>

STORAGE AND DISPOSAL

In the field, GonaCon™ Immunocontraceptive Vaccine in preloaded syringes and darts should be kept in a cooler as long as possible prior to use. GonaCon™ remaining in unused darts should be disposed of at the end of each day.

If not used within 18 months of manufacture when held under refrigeration (36°F to 45°F), or after 24 hours of exposure to unrefrigerated conditions, unused GonaCon™ Immunocontraceptive Vaccine should be destroyed.

Expired material, preloaded syringes, used syringes, needles, and darts should be disabled and disposed of as medical waste according to applicable Federal, State, and/or Local regulations.

UNITED STATES DEPARTMENT OF AGRICULTURE
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
Riverdale, MD 20737-1237
EPA Est. No. 56228-ID-1
EPA Reg. No. 56228-xx
Net Weight ____

Summary: Deer Immunocontraceptive Preparedness Survey 2007

The Northeast Deer Technical Committee conducted a nationwide survey to determine how prepared states were from a legislative perspective to regulate the use of immunocontraceptives in a management context. A total of **49** states responded to a series of five questions.

Results

1. Briefly describe your state's authority (statute, regulation, policy, etc.) to regulate the use of fertility control chemicals on your state's wildlife species. Please include text of relevant statutes, administrative rules and/or department policy statements.
 - Complete **23%** (11)
 - Adequate **49%** (24)
 - Unclear **10%** (5)
 - Weak **4%** (2)
 - None **12%** (6)
 - No response **2%** (1)

2. Do you feel your state has adequate authority to regulate the use of immunocontraceptive products at this time?
 - Yes **76%** (37)
 - No **24%** (12)

3. Given this new information that a product may be released in the next few years, do you feel you will be seeking additional authority during a future session of your legislature?
 - Yes **20%** (10)
 - No **78%** (38)
 - Possibly **2%** (1)

4. About two years ago Wildlife Administrators were surveyed to see if their state was likely to use immunocontraceptives for ungulate management if such a product was available. Please answer that question again, in light of this new information:
 - Yes **2%** (1)
 - Maybe **30%** (15)
 - Probably Not **39%** (19)
 - No **29%** (14)

If combined into a positive and negative response where

Positive= Yes + Maybe **33%** (16)

Negative= Probably Not + No **67%** (33)

5. What action, if any, do you feel the Association should take?

Of the 50 states who were asked “What action, if any, do you feel the Association should take?” 44 responded with comments that can be categorized in 4 major topics.

The most common response ($n=18$) was that the Association should critically review research on this topic and continue to provide information to the member states to keep them informed (CT, DE, HI, ID, IL, IN, KS, MA, MO, MT, NJ, NC, PA, RI, TN, VT, VA, WI).

Almost as many respondents ($n=17$) said it was important that the Association continue to support lawful hunting as the primary tool for wildlife over-abundance and the states’ authority over contraceptive agents for wildlife (AL, AZ, GA, KY, LA, MI, MS, NE, NV, OH, OR, PA, RI, SC, UT, WV, WY).

Many states ($n=15$) felt it was important for the Association to provide some guidance and draft example regulations for the states regarding how best to regulate the use of contraceptives and other substances in wildlife populations (AR, CO, IA, ME, MD, MA, MT, NE, NH, NJ, NM, NY, SD, VA).

Two states (NV, ND) opposed additional research funding for Gonacon™ and urged resistance to registering this product for other species.

No response to this question:

CA
FL
AK
TX
WA

MN said no action was necessary.

In regards to the question of adequate authority, 76% (37 of 49) said they felt they had adequate authority over the use of contraceptives. However, their narrative responses shows that many are counting on their *general* authority to manage wildlife as the basis of their comments. Many responses used verbiage such as “we have clear authority to regulate take and handling of wildlife.” We agree with this in principle, but are concerned that this will not stand up to a litigious assault that is sure to come when an agency uses this to deny the use of contraceptives. As the respondent from South Carolina said, the law is “weak in this respect because animals would not be “taken” or “possessed” and the laws currently being used would not apply.”

We summarized those who have explicit authority to regulate contraceptives and found that of 49 states responding, only 10 (21%) have explicit authority (CT, IN, MN, MO, NJ, NY, ND, OH, VA, WV) and three (6%) more are working on establishing authority

(CA,CO, RI). This leaves potentially 36 of the 50 states with no explicit authority (including three states that did not reply to this question - MI, TX, AK). In summarizing this information, we disregarded whether states *said* they had the authority and looked for evidence that it was explicit in the information they provided.

Please see the next section on “Model Statute or Regulations for Fertility Control” for more information.

MODEL STATUTE OR REGULATIONS FOR FERTILITY CONTROL

Background:

Neither the label language nor the registration process is where the states will assert their authority over wildlife management. It will be imperative that all Association member agencies protect their authority before the Gonacon™ registration process is complete giving the state fish and wildlife agencies approximately 18 months. We, therefore, recommend that states consult with their legal staff or Attorney General's office to determine whether or not they have clear legal authority to control the use of substances on free ranging wildlife, particularly if capture of the target animal is not required. Additionally, we recommend that states immediately discuss this issue with the state agency responsible for state pesticide labeling and permitting to ensure their agency input at the state level.

Many states requested that the Association provide guidance in the form of a model statute or regulation regarding fertility control. Such models are discussed below.

Establishment of Regulatory Authority: All states indicated they had statutory/regulatory language, which grants them authority to manage resident wildlife. However, many states did not have specificity within their enabling mandate. Some states indicate that "management" was a key word with little else specified. More common was the authority to "regulate sale, possession and take..." Take is often further defined as "to possess, pursue, attempt to pursue, harass, harm, molest chase, aim a device at, etc." These activities are generally not allowed without the agency granting authority or permission by issuing a license or permit. Permitting requirements are generally waived for agency personnel in the course of their normal duties.

It is also noted that in some cases the administration of contraceptive chemicals or drugs is regulated and mentioned, however physical sterilization (vasectomy and tubular ligation), which have been tried experimentally are not mentioned. It is likely that existing state regulations would cover these methods that require capture.

It is suggested, therefore, that in those states where it is not clear that the agency has authority over fertility control or the administration of any substance to free-ranging wildlife, that such authority be added in the appropriate statute or regulation. Some examples follow:

"No person may administer any chemical or biological substance, including, but not limited to drugs, pesticides, vaccines or immunocontraceptives or make any physical alterations or affix any device to any free-ranging wildlife without first obtaining a permit from the commissioner..." (Connecticut; excerpt from C.G.S. 26-70)

Another method used by states is to declare what is legal and only allow those acts:

“No person shall possess, take, pursue, or attempt to take or pursue or otherwise molest any wild elk, deer, wild turkey, or bear in any manner contrary to any provisions of this chapter or its regulations.” (Kentucky; exert from KRS 150.390)

“No person shall administer or otherwise employ the use of fertility control materials and/or methodologies including, but not limited to, those which result in contraception, contragestation and/or sterilization to any species of free ranging wildlife without first procuring a permit approved by the Council and issued by the Division under this section. No person shall employ any physical alteration or device that would alter the reproduction potential of any free-ranging wildlife species without first procuring a permit as required. The possession of such unauthorized materials or devices in the field shall be considered the attempt to take wildlife contrary to the provisions of the code.” (New Jersey: exert from N.J.A.C. 7:25-5.37)

Rhode Island is amending their regulations to include broad use of drugs, etc., including unauthorized use to prevent disease or to enhance growth, something for all states to ensure they can regulate.

“Without prior written authorization from the Director or his designee, it shall be unlawful to administer any drug to any wildlife, except in accordance with a permit issued under the provision of these regulations. The prohibition shall include but not be limited to, drugs used for fertility control, disease prevention or treatment, immobilization or growth stimulation.” (Rhode Island; exert from rule 4.5)

Virginia has similar language already on the books:

Without written authorization from the Director or his designee, it is unlawful to administer any drug to any vertebrate wildlife, except in accordance with a permit issued under the provisions of this title or regulations adopted by the Board. This prohibition shall include, but not be limited to, drugs used for fertility control, disease prevention or treatment, immobilization, or growth stimulation... “ (Virginia; exert from § 29.1-508.1)

Establishment of Permit Criteria: Once authority to regulate fertility control is established, appropriate application requirements and permit conditions are essential to ensure the desired restrictions are carried out and are enforceable. Statutes or rules should include the following: definitions for fertility control agents; application requirements; criteria for approval/denial; permit conditions and reporting requirements.

Definition: the definition should not be narrow in scope (i.e., limited to chemical control). It should be broad enough to cover all current and future possibilities.

The following template for draft fertility control statute or rule is a compilation of ideas gathered from the existing statutes/rules submitted by Association members. It is an attempt to cover all the issues that states need to address. We suggest you review this draft and the statute/rules sent in as part of the Association survey to ensure your specific

needs and concerns are met. Specific language should be drafted in consultation with your legal staff.

Example of Draft Legislation or Rule Regulating Fertility Control of Wildlife

I. **Fertility Control Agents** are, but not limited to, any drugs, vaccines, steroids, pesticides, chemicals, or physical procedures or materials that when administered to individual animals within a target species' population, produce a temporary or permanent state of infertility or result in contraception, contragestation and/or sterilization.

II. No person shall administer a fertility control agent to free-ranging wildlife without first obtaining a permit under this section.

III. The application for fertility control must include:

(a) Documentation regarding the experience and credentials of the applicant or their agents. Such documentation must describe the person's ability to identify the age, sex and reproductive status of the target species, their experience with handling the target species including capture and handling, their experience and ability to use the delivery equipment, such as dart guns, other capture equipment, and related immobilization drugs. Applicants associated with a federal, state or local agency, university or college, must submit the appropriate endorsement of the application from the agency or institution.

(b) A management plan or research proposal that includes:

1. A clear statement of the objectives, including the target population goals/densities and the anticipated time frame to meet these objectives.
2. A description of the fertility control agent/drug/method including:
 - i. Federal approvals or permits obtained, if necessary and
 - ii. Any mandated labeling restrictions or limitations designed to reduce or minimize risks/safety issues on target, non-target species, and humans;
3. Provide citations of published scientific literature which documents field studies on the efficacy and safety for predators, scavengers, and humans.
4. The purpose and need for the proposed action, including discussion of any other alternative control techniques that will or will not be used;
 - i. A description of the management area;
 - ii. A description of the target species population and current status;
 - iii. A detailed description of the field methodology for delivery including timing, sex and number of animals to be treated, percentage of the population to be treated, calculated population effect;
 - iv. Anticipated costs; and
 - v. Short and long term monitoring and evaluation procedures.

- (c) Written permission of the landowner(s) and/or administrative agency (ies) of the land area involved.
- (d) The completed application must be submitted 120 days prior to the anticipated start date of the management program.
- (e) Applications must be accompanied by an application fee of \$***

IV. Only applications, that satisfy the following criteria, will be approved:

- (a) Activities will present no health or safety risks to target and non-target animals, including predators and scavengers which may consume the target animals;
- (b) Includes written landowner permission for all properties included in the management plan or research study;
- (c) Includes all necessary approvals, including, but not limited to, any federal and/or state agency approvals for specific or extra label use, and any agency or institutional endorsement of the application;
- (d) For management programs: demonstrated biological feasibility that program population objectives and treatment effect is obtainable, and evaluation methods are adequate; or
- (e) For research studies: design is adequate to measure and evaluate treatment effects;
- (f) Applicant or the sponsor has documented that they have adequate funds available to implement plan;

V. All permits will include:

- (a) A description and boundary of the management or study area;
- (b) The names of authorized agent(s);
- (c) The authorized control substance (i.e., GonaCon™) or procedure and methodology to be used;
- (d) The approved time frame, including starting and ending dates;
- (e) Any limits on sex, age and numbers to be treated; and
- (f) Any other conditions deemed appropriate by the agency
(note: agencies may want to require tagging of target animals, public notice, posting of area, etc.)

VI. Permittees are required to:

- (a) Carry permit on them while engaged in the activity and to show permit to agency and law enforcement personnel when requested to do so;
- (b) Allow agency personnel to be present to monitor activities for compliance, public safety, and proper treatment of animals;
- (c) Adhere to all label restrictions and precautions;
- (d) Provide annual report on activities as a pre-requisite for continuation of

program. Annual reports must include the number of animals treated, amount of money expended, the level of treatment effect obtained to date, any problems including mortalities of target animals and any deviations from original study design;

- (e) Provide a final report summarizing results including number treated, treatment effect, effect on population including reproductive rates, mortalities, and costs of overall program, and any other information requested by the permitting agency.

VII. Failure to adhere to any conditions of the permit will result in immediate suspension or revocation and may result in a fine of \$ **.

Best Management Practices

For use of GonaconTM immunocontraceptive vaccine to manage cervid populations

GonaconTM is a new immunocontraceptive vaccine developed by the NWRC for preventing fertility in female cervids. This vaccine is intended to be used in combination with hunting and other population management strategies to assist in the management of cervid populations. Approval for restricted use of GonaconTM may be granted by the EPA as early as 2008. Once registered by the EPA, use within each state must be approved by the pesticide regulatory agency in each state; primarily the State Agriculture Department. State fish and wildlife agencies may also need to review and approve use of immunocontraceptive vaccines on wild cervid populations within their state. Cost of administering immunocontraceptive vaccines is expected to be high (>\$1,000 per animal treated) and should be borne by the applicant.

GonaconTM can only be used in adult (>1 year) female cervids. Recent studies have documented 1 hand-injected dose of GonaconTM to be 88% to 100% effective at preventing fertility during Year 1. Although some females may remain infertile for up to 4 years, percentage of females that remain infertile during year 2 has ranged from 47% to 100% based on the studies being submitted to the EPA. A second dose (booster) is recommended during year 2 to extend contraceptive effectiveness. Based on available data, it is unclear how often deer will need to be re-vaccinated to maintain infertility in subsequent years.

Below, are the best management practices for the use of immunocontraceptive vaccines in wild cervid populations, based on available scientific data. The manufacturer's "Technical Note" also should be consulted for additional guidance.

Identification of suitable populations

- 1) Degree of isolation needs to be considered when identifying populations that may be suitable for use of immunocontraceptive vaccines. Cervid populations should be isolated (fenced or island situations) or relatively insular in nature (forested lands surrounded by urban sprawl). Semi-isolated populations will reduce effectiveness of contraception programs due to immigration and emigration of deer.
- 2) Targeting relatively small populations will increase the likelihood of treating an adequate number of females in the population to stabilize or reduce herd size.
- 3) Immunocontraception should be used in combination with other population management strategies. Immunocontraception alone has not effectively reduced the size of any free-ranging cervid population. Because population reduction will be difficult, or at best, a very slow process, immunocontraceptives will be more effective if populations are reduced first with lethal management strategies.
- 4) To maximize treatment rates, study sites should have good road access for treating the maximum number of females and cervids should be relatively approachable. Depending on herd-specific reproductive and survival rates, it is expected that 80-90% of females will need to be treated to successfully reduce or maintain populations.

Treatment Schedule:

- 1) To obtain maximum antibody levels in female cervids before the breeding season, contraceptive vaccines should be administered 2-3 months prior to the breeding season. Efficacy has not been established for females vaccinated at other times of the year.
- 2) Although some deer may remain infertile with one dose for up to four years, to maximize vaccine effectiveness female cervids should be treated annually.
- 3) Only female deer 1 year of age or older should be treated with the immunocontraceptive vaccine.

Field Precautions:

- 1) If female deer are treated during the winter months, special care should be exercised to minimize accidental treatment of bucks with shed antlers or buck fawns.
- 2) Accidental treatment of males will cause substantial antler deformities and may result in temporary infertility.
- 3) All darts should be labeled with warnings provided by the manufacturer.
- 4) Attempts should be made to recover all darts to minimize human health risk.
- 5) Darts should be delivered into a large muscle mass on female cervids.
- 6) To allow treatment rates and vaccine effectiveness to be evaluated, treated females should be captured and uniquely marked with ear tags.
- 7) Pregnant women should not be involved in handling or injecting Gonacon™.
- 8) Avoid exposure to children, pets, and other non-target animals.
- 9) Avoid contact with eyes.
- 10) All label language provided by the manufacturer for use, storage, and disposal of darts, vaccines, and syringes must be followed.

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Alabama Department of Conservation and Natural Resources
Gary.moody@DCNR.Alabama.gov

State Pesticide Regulatory Agencies

From http://npic.orst.edu/state_agencies.html#AK

Alabama Department of Agriculture & Industries
Food & Safety Division, Pesticide Management Section
1445 Federal Drive
PO Box 3336
Montgomery, AL 36109-0336
334-240-7271 (complaints)
334-240-7242 (private certification)
800-642-7761 (Dept. of Ag and Industries)
http://www.agi.alabama.gov/pesticide_management

Alaska Department of Environmental Conservation
Division of Environmental Health, Pesticide Control Program
1700 E. Bogard Road, Bldg B. Suite 202
Wasilla, AK 99645
800-478-2577 (in-state)
907-376-1870
<http://www.dec.state.ak.us/eh/pest/index.htm>

Arizona Department of Agriculture
Environmental Services Division
1688 West Adams St.
Phoenix, AZ 85007
602-542-3578
800-423-8876 (pesticide emergencies)
<http://www.azda.gov/ESD/esd.htm>

Arizona Structural Pest Control Commission
9535 East Doubletree Ranch Road
Scottsdale, AZ 85258-5514
602-255-3664
800-223-0618 (in state only)
<http://www.sb.state.az.us/>

Arkansas State Plant Board

Pesticide Division
1 Natural Resource Drive
PO Box 1069
Little Rock, AR 72205
501-225-1598

http://www.plantboard.org/pesticides_about.html

California Environmental Protection Agency

Department of Pesticide Regulation
1001 I Street, PO Box 4015
Sacramento, CA 95812-4015
916-445-4300

<http://www.cdpr.ca.gov/>

Colorado Department of Agriculture

Division of Plant Industry
700 Kipling St, Suite 4000
Lakewood, CO 80215
303-239-4140

<http://www.ag.state.co.us/DPI/home.html>

Connecticut Department of Environmental Protection

Bureau of Waste Management, Pesticide Management Program
79 Elm Street
Hartford, CT 06106-5127
860-424-3369

<http://www.dep.state.ct.us/wst/pesticides/index.htm>

Delaware Department of Agriculture

Pesticides Section
2320 S DuPont Hwy
Dover, DE 19901
302-698-4500
800-282-8685 (in state only)

<http://www.state.de.us/deptagri/pesticides/index.shtml>

Florida Department of Agriculture & Consumer Services
Agricultural Environmental Services
3125 Conner Blvd, Suite F
Tallahassee, FL 32399-1650
850-488-3731
<http://www.flaes.org/index.html>

Georgia Department of Agriculture
Plant Industry Division, Pesticide Division
19 MLK Jr. Dr. SW, Room 550
Atlanta, GA 30334
404-656-4958 (licensing & certification/product registration)
404-656-9371 (complaints/enforcement)
404-656-4960 (WPS/ESA/Disposal)
http://agr.georgia.gov/00/article/0,2086,38902732_0_41285569,00.html

Georgia Department of Agriculture
Plant Industry Division, Structural Pest Control Section
19 MLK Jr. Dr. SW, Room 242
Atlanta, GA 30334
404-656-3641
http://agr.georgia.gov/00/article/0,2086,38902732_0_41287703,00.html

Hawaii Department of Agriculture
Plant Industry Division, Pesticides Branch
1428 S. King Street
Honolulu, HI 96814-2512
808-973-9401
http://www.hawaiiag.org/hdoa/pi_pest.htm

Idaho State Department of Agriculture
Division of Agricultural Resources
2270 Old Penitentiary Road
PO Box 7723
Boise, ID 83707
208-332-8605
<http://www.agri.state.id.us/Categories/Pesticides/indexPesticides.php>

Illinois Department of Agriculture

Bureau of Environmental Programs

P.O. Box 19281, State Fairgrounds

Springfield, IL 62794-9281

217-782-2172

800-641-3934 (Pesticide Misuse Hotline, in state only)

<http://www.agr.state.il.us/Environment/>

Illinois Department of Public Health

Division of Environmental Health, Structural Pest Control

535 W Jefferson Street

Springfield, IL 62761

217-782-4977

<http://www.idph.state.il.us/envhealth/structuralpest.htm>

Office of Indiana State Chemist

Pesticide Section

175 S University St, Purdue University

West Lafayette, IN 47907-2063

800-893-6637 or 765-494-1585 (enforcement, investigations, inspections)

765-494-1587 (product registration, water quality)

765-494-1588 (licensing and certification)

http://www.isco.purdue.edu/pesticide/index_pest1.html

Iowa Department of Agriculture & Land Stewardship

Pesticide Bureau

Henry A. Wallace Building, First Floor

502 East Ninth Street

Des Moines, IA 50319-0051

515-281-8591

<http://www.agriculture.state.ia.us/pesticidebureau.htm>

Kansas Department of Agriculture

Pesticide & Fertilizer Program

109 SW 9th Street

Topeka, KS 66612

785-296-3786

<http://www.ksda.gov/Default.aspx?tabid=60>

Kentucky Department of Agriculture

Division of Environmental Services

107 Corporate Drive

Frankfort, KY 40601

502-573-0282

800-289-0001 (in state only)

http://www.kyagr.com/enviro_out/pesticide/index.htm

Louisiana Department of Agriculture & Forestry

Pesticide & Environmental Programs

PO Box 3596

Baton Rouge, LA 70821-3596

225-925-3770

<http://www.ldaf.state.la.us/divisions/aes/pesticide-ep/default.asp>

Maine Department of Agriculture

Board of Pesticides Control

Rt. 9 (Hospital St.), AMHI Campus, Deering Bldg., Rm 333

28 State House Station

Augusta, ME 04333-0028

207-287-2731

<http://www.state.me.us/agriculture/pesticides/>

Maryland Department of Agriculture

Pesticide Regulation Section

50 Harry S Truman Pkwy

Annapolis, MD 21401

410-841-5710

http://www.mda.state.md.us/plants-pests/pesticide_regulation/index.php

Massachusetts Department of Agricultural Resources

Pesticide Bureau

251 Causeway St, Suite 500

Boston, MA 02114
617-626-1700
617-626-1781 (complaints)
<http://www.mass.gov/agr/pesticides/index.htm>

Michigan Department of Agriculture
Pesticide & Plant Pest Management Division
525 West Allegan St.
PO Box 30017
Lansing, MI 48909
517-373-1087
800-292-3939 (Dept of Agriculture)
http://www.michigan.gov/mda/0,1607,7-125-1572_2875-8324--,00.html

Minnesota Department of Agriculture
Agronomy and Plant Protection Division
625 N Roberts St
St Paul, MN 55155-2538
651-201-6121
800-967-2474 (Dept of Agriculture)
<http://www.mda.state.mn.us/appd/default.htm>

Mississippi Department of Agriculture & Commerce
Bureau of Plant Industry, Pesticide Program
Stone Blvd
PO Box 5207
Mississippi State, MS 39762
662-325-3390
http://www.mdac.state.ms.us/n_library/departments/bpi/bpi_pesticide.html

Missouri Department of Agriculture
Plant Industries Division, Bureau of Pesticide Control
1616 Missouri Blvd
PO Box 630
Jefferson City, MO 65102
573-751-2462
<http://www.mda.mo.gov/Pest/bureauintro.htm>

Montana Department of Agriculture

Pesticide Programs
303 North Roberts St
PO Box 200201
Helena, MT 59620-0201
406-444-2944

<http://agr.state.mt.us/pestfert/pesticidePrograms.asp#one>

Nebraska Department of Agriculture

Bureau of Plant Industry
301 Centennial Mall South
PO Box 94756
Lincoln, NE 68509-4756
402-471-2394

<http://www.agr.state.ne.us/division/bpi/bpi.htm>

Nevada Department of Agriculture

Plant Industry Division
350 Capitol Hill Ave
Reno, NV 89502
775-688-1180
888-228-5239

http://agri.nv.gov/index_Plant2.htm

New Hampshire Department of Agriculture, Markets & Food

Division of Pesticide Control
State House Annex, 25 Capitol Street, 2nd Floor
PO Box 2042
Concord, NH 03302
603-271-3550

http://agriculture.nh.gov/divisions/pesticide_control/index.htm

New Jersey Department of Environmental Protection

Pesticide Control Program
22 S. Clinton Ave, 3rd Floor
PO Box 411

Trenton, NJ 08625-0411
609-984-6507
609-530-4070 (Automated Attendant)
<http://www.nj.gov/dep/enforcement/pcp/index.htm>

New Mexico Department of Agriculture
Agricultural & Environmental Services, Bureau of Pesticide Management
MSC 3AQ Box 30005
Las Cruces, NM 88003-0005
505-646-2133
<http://nmdaweb.nmsu.edu/DIVISIONS/AES/pest.html>

New York State Department of Environmental Conservation
Division of Solid & Hazardous Materials, Pesticides Management Program
625 Broadway, 9th Floor
Albany, NY 12233-7254
518-402-8788
<http://www.dec.state.ny.us/website/dshm/pesticide/pesticide.htm>

North Carolina Department of Agriculture & Consumer Services
Food & Drug Protection Division, Pesticide Section
2109 Blue Ridge Rd
1090 Mail Service Center
Raleigh, NC 27966-1090
919-733-3556
<http://www.ncagr.com/fooddrug/pesticide/>

North Carolina Department of Agriculture & Consumer Services
Structural Pest Control Division
2 West Edenton Street
1001 Mail Service Center
Raleigh, NC 27699-1001
919-733-6100
<http://www.agr.state.nc.us/str%2Dpest/>

North Dakota Department of Agriculture

Pesticide Programs
600 E Boulevard Ave, Dept 602
Bismarck, ND 58505-0020
701-328-2231
800-242-7535

<http://www.agdepartment.com/Programs/Plant/Pesticides.html>

Ohio Department of Agriculture

Division of Plant Industry, Pesticide & Fertilizer Regulation
8995 East Main Street
Reynoldsburg, OH 43068-3399
614-728-6987
800-282-1955 (Dept of Agriculture)

<http://www.ohioagriculture.gov/pesticides/>

Oklahoma Department of Agriculture, Food & Forestry

Plant Industry & Consumer Services
2800 N Lincoln Blvd
PO Box 528804
Oklahoma City, OK 73152-8804
405-521-3864

<http://www.oda.state.ok.us/pics-home.htm>

Oregon Department of Agriculture

Pesticides Division
635 Capitol St
Salem, OR 97301
503-986-4635

<http://oregon.gov/ODA/PEST/>

Pennsylvania Department of Agriculture

Bureau of Plant Industry
2301 N Cameron St
Harrisburg, PA 17110
717-787-4843

<http://www.agriculture.state.pa.us/agriculture/cwp/view.asp?a=3&q=127130>

Rhode Island Department of Environmental Management

Division of Agriculture
235 Promenade St
Providence, RI 02908-5767
401-222-2781

<http://www.dem.ri.gov/programs/bnatres/agricult/index.htm>

Clemson University

Department of Pesticide Regulation
511 Westinghouse Rd
Pendleton, SC 29670
864-646-2150

http://dpr.clemson.edu/index_flash.html

South Dakota Department of Agriculture

Division of Agricultural Services, Pesticide Program
523 E Capitol Ave - Foss Bldg
Pierre, SD 57501-3182
605-773-4432

800-228-5254 (in state only)

<http://www.state.sd.us/doa/das/hp-pest.htm>

Tennessee Department of Agriculture

Regulatory Services Division, Agricultural Inputs & Pesticides
Ellington Agricultural Center
PO Box 40627, Melrose Station
Nashville, TN 37204
615-837-5150

800-628-2631 (complaint hotline)

<http://www.state.tn.us/agriculture/regulate/aip/>

Texas Department of Agriculture

Pesticide Programs
1700 North Congress Avenue, Stephen F. Austin Building, 11th Floor
PO Box 12847
Austin, TX 78711

512-463-7476

800-835-5832

<http://www.agr.state.tx.us/pesticide/index.htm>

Texas Structural Pest Control Board

William P. Hobby Building, 333 Guadalupe, Suite I-530

PO Box 1927

Austin, TX 78767-1927

512-305-8250

512-305-8270 (complaints)

<http://www.spcb.state.tx.us/>

Utah Department of Agriculture & Food

Division of Plant Industry

350 N Redwood Road

PO Box 146500

Salt Lake City, UT 84114-6500

801-538-7123

http://ag.utah.gov/plantind/plant_ind.html

Vermont Agency of Agriculture, Food & Markets

Agricultural Resource Management and Environmental Stewardship (ARMES)

116 State St, Drawer 20

Montpelier, VT 05620-2901

802-828-2431

<http://www.vermontagriculture.com/pest.htm>

Virginia Department of Agriculture & Consumer Services

Office of Pesticide Services

PO Box 1163

Richmond, VA 23218

804-371-6558

800-552-9963 (in state only)

<http://www.vdacs.virginia.gov/pesticides/index.html>

Washington State Department of Agriculture
Pesticide Management Division
Natural Resources Building - 2nd floor, 1111 Washington Street
PO Box 42589
Olympia, WA 98504-2589
877-301-4555
<http://agr.wa.gov/PestFert/Pesticides/default.htm>

Washington DC Department of Health
Environmental Health Administration, Toxic Substance Division
51 N Street, NE, 3rd Floor
Washington, DC 20002
202-535-2299
http://doh.dc.gov/doh/cwp/view,a,1374,Q,585693,dohNav_GID,1814,.asp

West Virginia Department of Agriculture
Regulatory & Environmental Affairs Division
1900 Kanawha Boulevard, E.
Charleston, WV 25305
304-558-2209
<http://www.wvagriculture.org/Division%20Web%20Pages/regulatory.html>

Wisconsin Department of Agriculture, Trade & Consumer Protection
Agricultural Resource Management Division
2811 Agriculture Drive
PO Box 8911
Madison, WI 53708-8911
608-224-4500
<http://datcp.state.wi.us/core/insectspesticides/insectspesticides.jsp>

Wyoming Department of Agriculture
Technical Services, Pesticide Program
2219 Carey Avenue
Cheyenne, WY 82002-0100
307-777-7324
<http://wyagric.state.wy.us/techserv/tsindex.html>

Puerto Rico Department of Agriculture

Agrological Laboratory
#7, Carretera 693
Dorado, PR 00646-3445
787-796-1735

<http://www.agricultura.gobierno.pr/>

US Virgin Islands Department of Planning & Natural Resources

Division of Environmental Protection, Pesticide Control
45 Mars Hills, Frederiksted
St. Croix, US Virgin Islands 00841
340-773-1082

<http://dprn.gov.vi/dep/Pesticide-Control.htm>

American Samoa Government

Environmental Protection Agency
Office of the Governor
Territory of American Samoa, Pago Pago AS 96799
684-633-2304

Guam Department of Agriculture

192 Dairy Road
Mangialo, Guam 96923
671-734-3942

Commonwealth of the Northern Mariana Islands Division of Environmental Quality

Above & Underground Storage Tanks & Pesticides Management Branch (AUPM)

Gualo Rai Center
PO Box 501304
Saipan, MP 96950
670-664-8500

<http://www.deq.gov.mp/aupm/AUPM%20main.htm>

