

State Update



Tennessee Team on Antimicrobial Resistance

Centers for Disease Control and Prevention

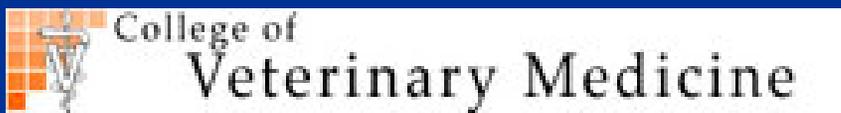
**Get Smart: Know When Antibiotics Work on the Farm,
2007 Partnership Meeting, May 31, 2007**

Background

- **Applied for funding—2005**
 - **New program in Tennessee!**
- **Award—Aug 21, 2006**
 - **intended for obligation by Dec 31, 2006**
- **Public Health Educator hired—Sept 1, 2006**
- **Stakeholders conference call—Oct 4, 2006**

Tennessee Team on Antimicrobial Resistance

Partnership!



Purpose

- **Education and outreach**
 - **Antimicrobial resistance**
 - **Appropriate antimicrobial use in veterinary and agricultural settings in Tennessee**
- **Conduct or support collaborative applied research**

Goals

- **Identify and engage stakeholders**
 - TTAR
- **Target relevant groups with educational campaign**
 - Appropriate messages
 - Strategies to reach

Beef Cattle in Tennessee

- **State's largest agricultural industry**
- **48,000 beef producers**
- **2,200,000 beef cattle**
- **\$483,000,000 annual sales**
- **Ranked 9th in United States**

TTAR Strategy

- **Support and promote existing programs**
- **Outreach**
 - Organized beef cattle producer groups
 - Stocker operations
 - Other cattlemen
- **Survey**
 - knowledge, attitudes, and practices of producers regarding antimicrobials

TTAR Supports And Promotes Existing Programs

- Tennessee Master Beef Producer Program—UT Extension
 - Raise awareness
 - Promoted TDA scholarships for Master Beef Producer Program
- Tennessee Cattlemen's Beef Quality Assurance Program



Educational Outreach: Tennessee Cattlemen's Association (TCA)

- **Current TCA president is TTAR member**
- **TCA Annual Convention—January, 2007**
 - **Booth at trade show**
 - **Slide show and poster presentation**
 - **Distribute materials**
 - **Appropriate use guidelines**
 - **“Antibiotic purchase and use” notepads**
 - **Face-to-face TTAR business meeting**

Tennessee Cattlemen's Association (TCA) tradeshow





Tennessee Team on Antimicrobial Resistance

Background

Bacteria that can cause illnesses and death in beef and dairy cattle are getting harder to kill with antimicrobials. This is a growing problem for the food producing animal industries. These hard-to-kill or "resistant" bacteria are also a problem in human health. It is important for livestock producers, veterinarians, and animal owners to become knowledgeable about the issue of antimicrobial resistance and to implement practices which will keep antimicrobials working.

What is the Tennessee Team on Antimicrobial Resistance?

The Tennessee Team on Antimicrobial Resistance (TTAR) is a coalition that includes members from:

- Tennessee Department of Agriculture
- Tennessee Cattlemen's Association
- UT College of Veterinary Medicine
- Tennessee Veterinary Medical Association
- UT Extension Service
- Tennessee Department of Health
- Large Animal Veterinarians,

and others joined together to develop and promote a program to *Keep Antimicrobials Working!*

What is antimicrobial resistance?

Antimicrobial resistance means that disease-causing bacteria can defend against the antimicrobials (antibiotics and related medicinal drugs) once used to kill them. For example, strains of *Salmonella* that are resistant to multiple types of antimicrobials are now being found in food animals and in humans. Appropriate use of antimicrobials in animals, good management practices, and biosecurity are critical to keep antimicrobials working on the farm and to prevent human infection with resistant bacteria.

What is being planned by the TTAR?

Recognizing that cattle represent Tennessee's number one agricultural commodity and that Tennessee cattle producers are among the leaders in the cattle industry, the TTAR is partnering with cattlemen to address the problem of antimicrobial resistance. An initial objective of TTAR is to conduct a survey among beef cattle producers. The survey will address knowledge, attitudes, practices, and needs related to biosecurity and the use of antimicrobials. Based on the survey results and other current resources, TTAR will work together with existing programs to develop or enhance materials and distribute them to provide the most current information possible for beef cattle producers and veterinarians about antimicrobial resistance and guidelines for appropriate use. TTAR is also planning to provide point-of-sale guidelines that can be distributed at locations where antimicrobials can be purchased.



TTAR encourages cattle producers to learn about appropriate antimicrobial use and management:

- The Tennessee Master Beef Producer Program offered by the University of Tennessee Extension Service, <http://animalscience.ag.utk.edu/beef/MasterBeefProducerProgram.htm>
- Tennessee Cattlemen's Beef Quality Assurance Program, <http://www.tncattle.org/>

TDA is offering \$100 scholarships for the UT Extension's Master Beef Producer Program. For more information on the Master Beef Producer Program, contact your local UT Extension office.

The Master Beef Producer and Beef Quality Assurance Programs include the following guidance:

Select and Use Antimicrobials Carefully:

- Limit antibiotic use to sick animals or those exposed to disease
- Use the proper dose, through the proper route, for the recommended time
- Consult a veterinarian when using antimicrobials
- Use laboratory results to select antimicrobials
- Avoid broad spectrum antimicrobials
- Use only drugs acceptable for food animals
- Know and observe withdrawal times before milking or harvesting
- Keep records of antimicrobial use

Practice Proper Management to Avoid the Need for Antibiotics:

- Vaccinate
- Diagnose problems early and accurately
- Limit stress
- Separate sick animals or young or new cows
- Control parasites and manage nutrition
- Manage the environment:
 - Prevent contact with wild or domestic animals
 - Clean and disinfect equipment between each animal use
 - Schedule work from youngest to oldest, from healthy to sick

The Tennessee Team on Antimicrobial Resistance or TTAR is pleased to promote Tennessee Agriculture and help Tennessee Cattlemen lead the way in developing and implementing appropriate antimicrobial use guidelines. For additional information please visit: <http://www2.state.tn.us/health/CEDS/index.htm>



Department of Agriculture
Elliott Agricultural Center
Nashville, TN 37204
615.837.5103



College of
Veterinary Medicine



NCBA and FDA Judicious Use Guidelines



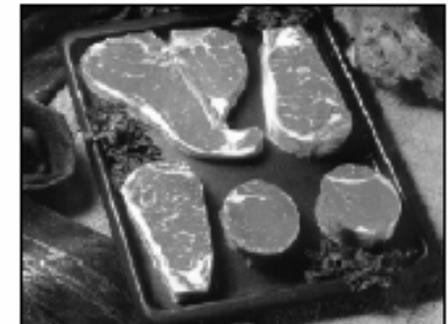
A Producers Guide for Judicious Use of Antimicrobials in Cattle

1. **Prevent Problems:** Emphasize appropriate husbandry and hygiene, routine health examinations, and vaccinations.
2. **Select and Use Antibiotics Carefully:** Consult with your veterinarian on the selection and use of antibiotics. Have a valid reason to use an antibiotic. Therapeutic alternatives should be considered prior to using antimicrobial therapy.
3. **Avoid Using Antibiotics Important In Human Medicine As First Line Therapy:** Avoid using as the first antibiotic those medications that are important to treating strategic human or animal infections.
4. **Use the Laboratory to Help You Select Antibiotics:** Cultures and susceptibility test results should be used to aid in the selection of antimicrobials, whenever possible.
5. **Avoid Using Broad Spectrum:** Use narrow spectrum antimicrobials, whenever possible. Combination antibiotic therapy is discouraged.
6. **Avoid Inappropriate Antibiotic Use:** Confine therapeutic antimicrobial use to proven clinical indications, avoiding inappropriate uses such as for viral infections without bacterial complication.
7. **Treatment Programs Should Reflect Best Use Principles:** Regimens for therapeutic antimicrobial use should be optimized using current pharmacological information and principles.
8. **Treat the Fewest Number of Animals Possible:** Limit antibiotic use to sick or at risk animals.
9. **Treat for the Recommended Time Period:** To minimize the potential for bacteria to become resistant to antimicrobials.
10. **Avoid Environmental Contamination with Antibiotics:** Steps should be taken to minimize antimicrobials reaching the environment through spillage, contaminated ground run off or aerosolization.
11. **Keep Records of Antibiotic Use:** Accurate records of treatment and outcome should be used to evaluate therapeutic regimens and always follow proper withdrawal times.
12. **Follow Label Directions:** Follow label instructions and never use antibiotics other than as labeled without a valid veterinary prescription.
13. **Extralabel Antibiotic Use Must follow FDA Regulations:** Prescriptions, including extra label use of medications must meet the Animal Medicinal Drug Use Clarification Act (AMDUCA) amendments to the Food, Drug, and Cosmetic Act and its regulations. This includes having a valid Veterinary-Client-Relationship.
14. **Subtherapeutic Antibiotic Use Is Discouraged:** Antibiotic use should be limited to prevent or control disease and should not be used if the principle intent is to improve performance.

Guidelines 1-13 adapted from AVMA, AABP and AVC Appropriate Veterinary Antibiotic Use Guidelines.

THE JUDICIOUS USE OF ANTIMICROBIALS FOR

BEEF PRODUCERS



TTAR business meeting during TCA Annual Meeting



Educational Outreach: State and Regional Producer Groups

- **Southeast Regional Milk Seminar**
 - Nashville—November, 2006
- **Mid-South Stocker Conference**
 - Cave City, KY—February, 2007
- **Tennessee Nutrition Conference**
 - Franklin, TN—March, 2007

**Reaching cattle producers not
allied with industry groups**

Backgrounding & Stocker Cattle Producers

- **Difficult to identify**
- **Next step is feedlot**
- **May account for majority of antimicrobial use in TN beef cattle**

NEIGHBORLY ADVICE

By Dr. John Dunn

Keep antimicrobials working

Bacteria that can cause illnesses and death in beef and dairy cattle are getting harder to kill with antimicrobials (antibiotics and related medicinal drugs). These "resistant" bacteria are a growing problem for the food-producing animal industries as well as in human health. It is important for livestock producers, veterinarians, and other animal owners to be aware of this issue and to implement practices that will keep the antimicrobials we now have working.

Antimicrobial resistance means that disease-causing bacteria can defend against the products once used to kill them. For example, strains of salmonella that are resistant to multiple types of antimicrobials are now being found in food animals and in humans. The appropriate use of animal health products, good management practices, and biosecurity are critical in keeping antimicrobials working on the farm and to prevent human infection with resistant bacteria.

The Tennessee Department of Health (TDH) has received funding through the U.S. Centers for Disease Control and Prevention (CDC) to develop "Keep Antimicrobials Working!", a campaign that addresses antimicrobial resistance in agricultural and veterinary settings in Tennessee. TDH has joined with the Tennessee Department of Agriculture (TDA) to form the Tennessee Team on Antimicrobial Resistance (TTAR), a coalition that also includes members from the University of Tennessee College of Veterinary Medicine, Tennessee Veterinary Medical Association, UT Extension Service, Tennessee Agricultural Experiment Station, Tennessee Cattlemen's Association, and others.

An initial objective of TTAR is to survey beef cattle producers who represent Tennessee's No. 1 agricultural commodity. The survey will address knowledge, attitudes, practices, and needs related to biosecurity and the use of antimicrobials. Based on the results and other resources, materials will be developed and distributed to provide current information for beef producers and veterinarians about antimicrobial resistance and guidelines for appropriate use.

Look for the TTAR booth at the Tennessee Cattlemen's Association annual convention in January and other producer meetings for additional information.

The TTAR encourages cattle producers to learn about appropriate antimicrobial use and management practices from the Tennessee Master Beef Producer Program, online at animalscience.ag.utk.edu/beef/MasterBeefProducerProgram.htm and the Tennessee Cattlemen's Beef Quality Assurance Program, www.tncattle.org/. These practices call for producers to carefully select and use antimicrobials by limiting antibiotic use to sick animals or those exposed to disease, using the proper dose and route for the recommended time, consulting with a veterinarian whenever antimicrobials are used, using laboratory results to select antimicrobials, avoiding broad-spectrum antimicrobials, using only drugs acceptable for food-producing animals, knowing and observing withdrawal times before milking or harvesting, and keeping good records.

Proper management can also help avoid the need for antibiotics. Such practices include vaccinating, observing cattle to diagnose problems early and accurately, limiting stress, separating sick animals or young or new cows, controlling parasites, managing nutrition, and managing the environment by preventing contact with wild or domestic animals, cleaning and disinfecting equipment between each animal use, and scheduling work from youngest to oldest and from healthy to sick.

As a reminder, TDA is offering incentives to producers who participate in the UT Extension's Master Beef Producer Program. The department will pay \$100 toward the cost of the 12-session educational program. For more information on this program, contact your local UT Extension office or visit online at animalscience.ag.utk.edu/beef/MasterBeefProducerProgram.htm.

Dr. Dunn provides primary oversight for the TTAR in conjunction with Dr. Ron Wilson, TDA state veterinarian. Darryl Edmisson, public health educator with the Tennessee Department of Health's Communicable and Environmental Disease Service, is the project coordinator.



Dr. John Dunn is medical epidemiologist and public health veterinarian with the Tennessee Department of Health's Communicable and Environmental Disease Services.

Make it a
Christmas

Kids Calendar
announced

se

Beef

A

scholarship

Tennessee Farmers' Co-op Magazine,
readership is over 100,000 farm families

TTAR Buyer Cards

- Used by most bidders
- Educational messages
- Distribute in livestock auction barns
 - TDA veterinarians



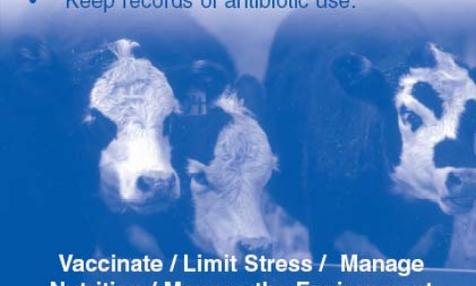
Tennessee Team on Antimicrobial Resistance (TTAR)

Select and Use Antimicrobials Carefully!

Practice Proper Management to Avoid the Need for Antibiotics.

Consult a Veterinarian Whenever Antibiotics Are Used.

- Limit antimicrobial use to sick animals or as otherwise directed by your veterinarian.
- Use the proper dose, through the proper route, for the recommended time.
- Keep records of antibiotic use.



Vaccinate / Limit Stress / Manage Nutrition / Manage the Environment

Important Contacts for Tennessee Cattlemen

TN Team on Antimicrobial Resistance
<http://www2.state.tn.us/health/CEDS>
 615-741-7247
 800-404-3006

TN Department of Agriculture
<http://www.state.tn.us/agriculture>
 615-837-5120

University of Tennessee College of Veterinary Medicine
<http://www.vet.utk.edu/>
 865-974-VETS

University of Tennessee Extension
<http://www.utextension.utk.edu/>
 865-974-7114

TN Cattlemen's Association
<http://www.tncattle.org/>
 615-896-2333(BEEF)

TN Veterinary Medical Association
<http://www.tvmanet.org/>
 800-697-3587

American Association of Bovine Practitioners
<http://www.aabp.org/>
 334-821-0442



Tennessee Team on Antimicrobial Resistance (TTAR)

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Tennessee Department of Health, Authorization No. 343898, 100,000 Copies, February 2007. This public document was promulgated at a cost of \$.04 per copy.

TTAR Website

<http://www2.state.tn.us/health/CEDS/antibiotics/TTARindex.htm>

- **Program information**
- **Judicious use recommendations**
 - Poster and slide presentation for download
- **BQA and FDA judicious use guidelines links**
- **Buyer card and cover letter for download**
- **Related site links**
 - TTAR member sites
 - CDC GSF



CEDS Home Page
Programs

Communicable and Environmental Disease Services

Tennessee's Team on Antimicrobial Resistance



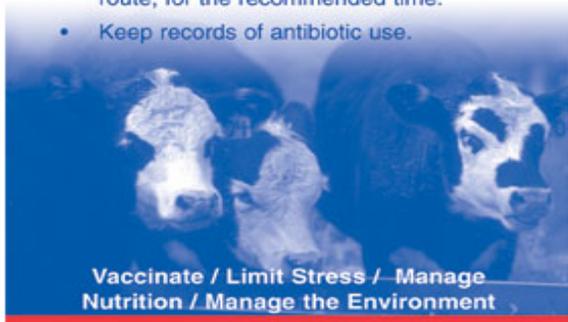
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Vaccinate / Limit Stress / Manage
Nutrition / Manage the Environment

The Tennessee Team on Antimicrobial Resistance (TTAR) is a coalition of the following members:

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- Tennessee Veterinary Medical Association
- UT Extension Service
- Tennessee Agricultural Experiment Station
- Tennessee Cattlemen's Association

These groups and others joined together to develop and promote this effort to Keep Antimicrobials Working!

- [Program Information](#)
- [TTAR Poster](#)
- [Download TTAR Presentation](#)
- [Links to TTAR Coalition Partners](#)
- [Download Buyer Card](#)
- **Important Guidance Documents**

- ▶ [The Judicious Use of Antimicrobials for Beef Producers"](#)
- ▶ ["A Producers Guide for Judicious Use of Antimicrobials in Cattle"](#)

TTAR Survey Of Tennessee Beef Cattle Producers

- **KAP of antimicrobial use and resistance**
- **Description of beef cattle producers**
- **Knowledge of and effectiveness of existing programs**

TTAR Survey Of Tennessee Beef Cattle Producers

- KAP of antimicrobial use and resistance
- Description of beef cattle producers
- Knowledge of and effectiveness of existing programs
- Improved, targeted educational materials

Survey Methods

- **USDA-NASS contract (in progress)**
 - Random stratified sample—3000 cattle producers
 - 2 mailings—response rate?
- **Description and stratification**
 - Herd size
 - Operation type
 - Producer training and educational level

Questionnaire Topics

- **Antimicrobial resistance**
- **Antimicrobial use: frequency and type**
- **Management practices**
- **Veterinary use**
- **Agricultural Enhancement fund use**

Program Limitations

- **TTAR partners are busy professionals**
- **Health Educator focus on TTAR for 4 months**
 - **Job moved to alternate funding source**
- **Delays and uncertainty in funding**
 - **Limits planning**
 - **Limits partner buy-in**
- **Distribution of funds to partners from TDH**

Future Directions

(contingent on funding)

- **Antibiotic-purchase bags**
 - in progress
- **Brochure(s) on appropriate antimicrobial use**
 - feed stores, co-ops, veterinarians' offices
- **Companion animal focus**
- **Proposal for shipping fever etiology and resistance studies**

Antibiotic-purchase Bags (in progress)

- Bags used when antibiotics are purchased
- Idea started with UT Extension and Tennessee Farmers Cooperative **cooler bags** for vaccine
 - <http://www.tncattlelane.org>
- TTAR to provide **paper bags** with information on appropriate antimicrobial use and proper injection sites

Shipping Fever (Respiratory Illness) Etiology And Antimicrobial Resistance In Stocker Cattle

- **Education about resistance and appropriate use**
- **Describe etiology and prevalence of respiratory pathogens and antimicrobial resistance**
- **Inform selection of empirical treatment of respiratory illness in Tennessee cattle**

Shipping Fever (Respiratory Illness) Etiology And Antimicrobial Resistance In Stocker Cattle

- **Education about resistance and appropriate use**
- **Describe etiology and prevalence of respiratory pathogens and antimicrobial resistance**
- **Inform selection of empirical treatment of respiratory illness in Tennessee cattle**
- **Reduce inefficient or improper use of antimicrobials**
- **Encourage use of veterinary services and promote valid veterinarian-client-patient relationships**

Questions?

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425 5th Ave. North
Nashville, TN 37247-4911
Phone: 615.741.7247**