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The National Scrapie Eradication Program



Scrapie Eradication in the United States

Updated July 2006



Scrapie



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Scrapie

- Classified as a transmissible spongiform encephalopathy (TSE)
- Fatal, degenerative disease affecting the central nervous system of sheep
- No cure or treatment
- Incubation period of 2 to 5 years
- Attacks the brain, leaving holes like a sponge



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Clinical Signs of Scrapie

Behavioral changes

Wool pulling

Swaying of back end

Weakness

Lip smacking

Down and unable to stand

Increased sensitivity to noise and movement

Death

Itching and rubbing

Loss of coordination

Tremor

Biting at legs

Weight loss

Bunny-hop movement of rear legs



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The Importance of Scrapie Eradication

- Markets for sheep-derived and bone meal have been affected
- Some trading partners prohibit U.S. sheep and sheep products because there is scrapie in the United States
- Processors and producers have difficulty and expense in disposing of dead sheep and sheep offal
- Prevents export of breeding stock, semen and embryos
- Identified as a major impediment to the well-being of the U.S. sheep industry
- Costs U.S. producers between \$20-25 million annually
- Causes economic loss in affected flocks



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History of Scrapie in the United States

- 1947 – scrapie was discovered in the United States
- 1952 – a scrapie eradication program was initiated
- 1992 – Voluntary Scrapie Flock Certification
- 2001 – National Accelerated Scrapie Eradication Program
- 2003 – prevalence in mature cull sheep determined to be 0.2% overall and 0.84% in black face sheep
- 2003 – USDA adopts genetic based approach to flock clean up
- 2003 – USDA approves third eyelid test for scrapie diagnosis
- 2006 – prevalence in mature cull black-face sheep sampled at slaughter reached a new low (0.43% for the first half of 2006)



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Key Aspects of The National Scrapie Eradication Program

- Detect pre-clinical sheep through live animal testing and slaughter surveillance
- Ability to trace infected animals to their flock of origin because of the identification requirements
- Genetics-based clean-up strategies that allow producers to stay in business
- Tracing and testing of exposed animals that have been sold out of infected flocks



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Requirements of the National Scrapie Eradication Program

- Most breeding animals and all sheep 18 months of age or older be officially identified
- Producers must acquire a scrapie premises identification number to get official eartags
- States must meet minimum standards for scrapie control in order to move breeding sheep freely – Consistent State status

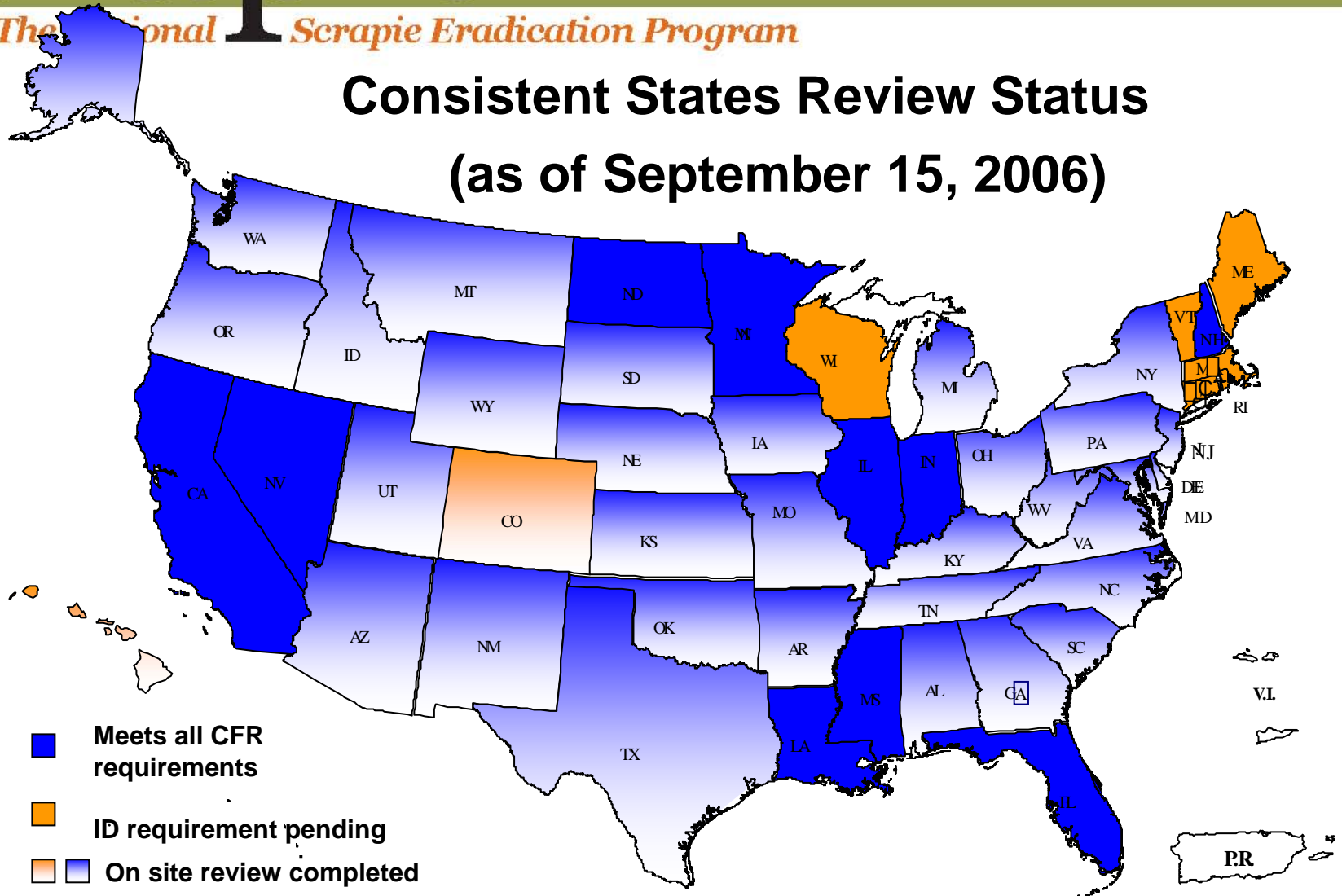


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Consistent States Review Status (as of September 15, 2006)



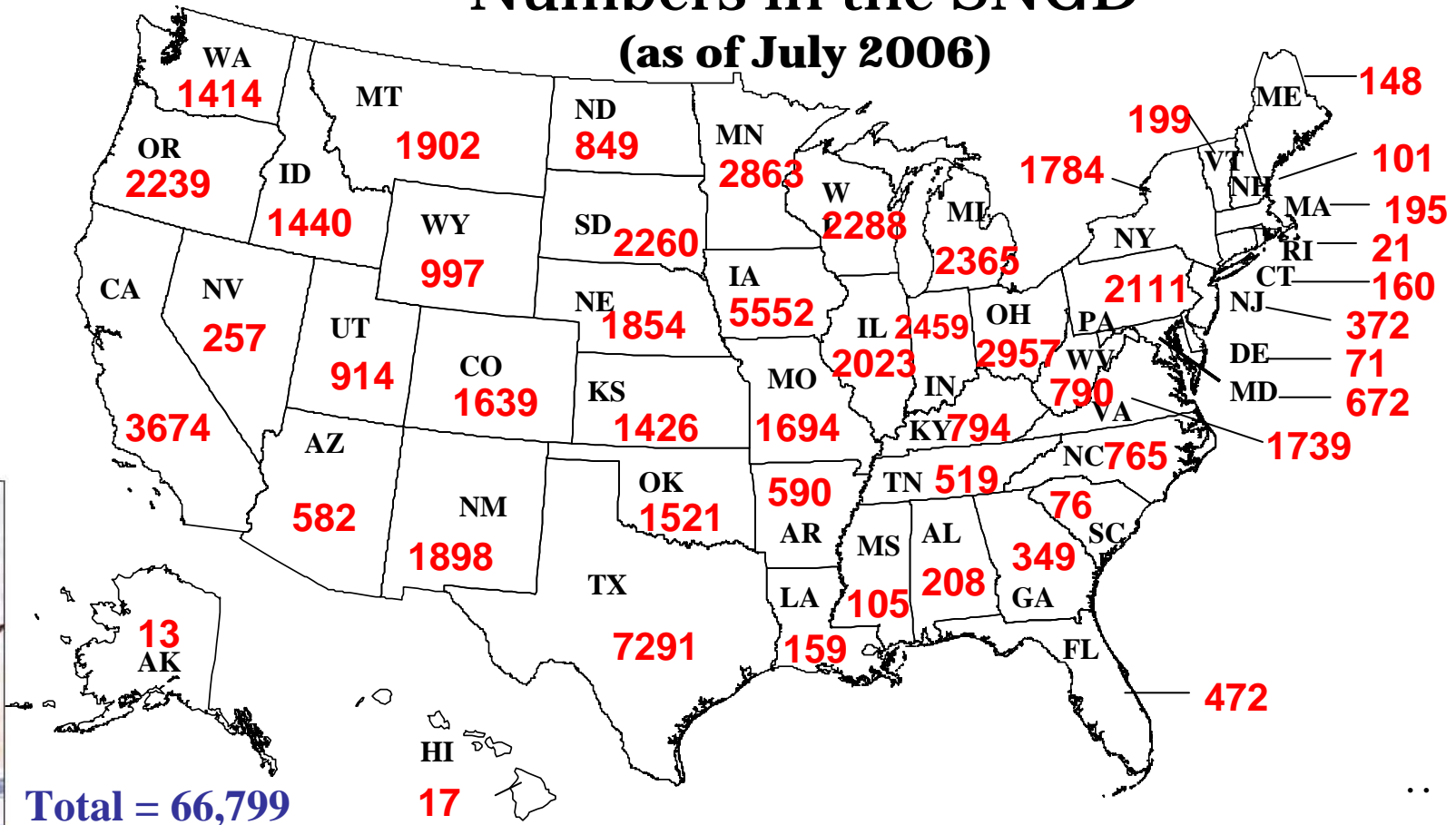
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Number of Sheep Premises Assigned Numbers in the SNGD

(as of July 2006)



Total = 66,799

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Genetics of Scrapie

- Some sheep are more susceptible to scrapie than others
- Genotyping can be used to identify genes that control scrapie susceptibility or resistance
- For a genotype test to be official the sheep must be officially identified and the test must be conducted by an accredited veterinarian and the blood/tissue submitted to an approved APHIS lab along with a VS Form 5-29
- Producers can use genotyping when selecting rams and ewes



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Role of Veterinary Practitioners

- Educate clients about scrapie and the program
- Write certificates of veterinary inspection
- Report disease to state and federal officials when suspected
- Advise producers and assist them in developing and completing flock clean-up plans



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Classes of Sheep Required to be Identified upon Change of Ownership or Movements where Commingling will Occur with other Flocks

- All breeding sheep
- All sheep over 18 months of age
- All sexually intact sheep for exhibition
- All positive, exposed, suspect and high-risk animals
- All sheep from non-compliant flocks



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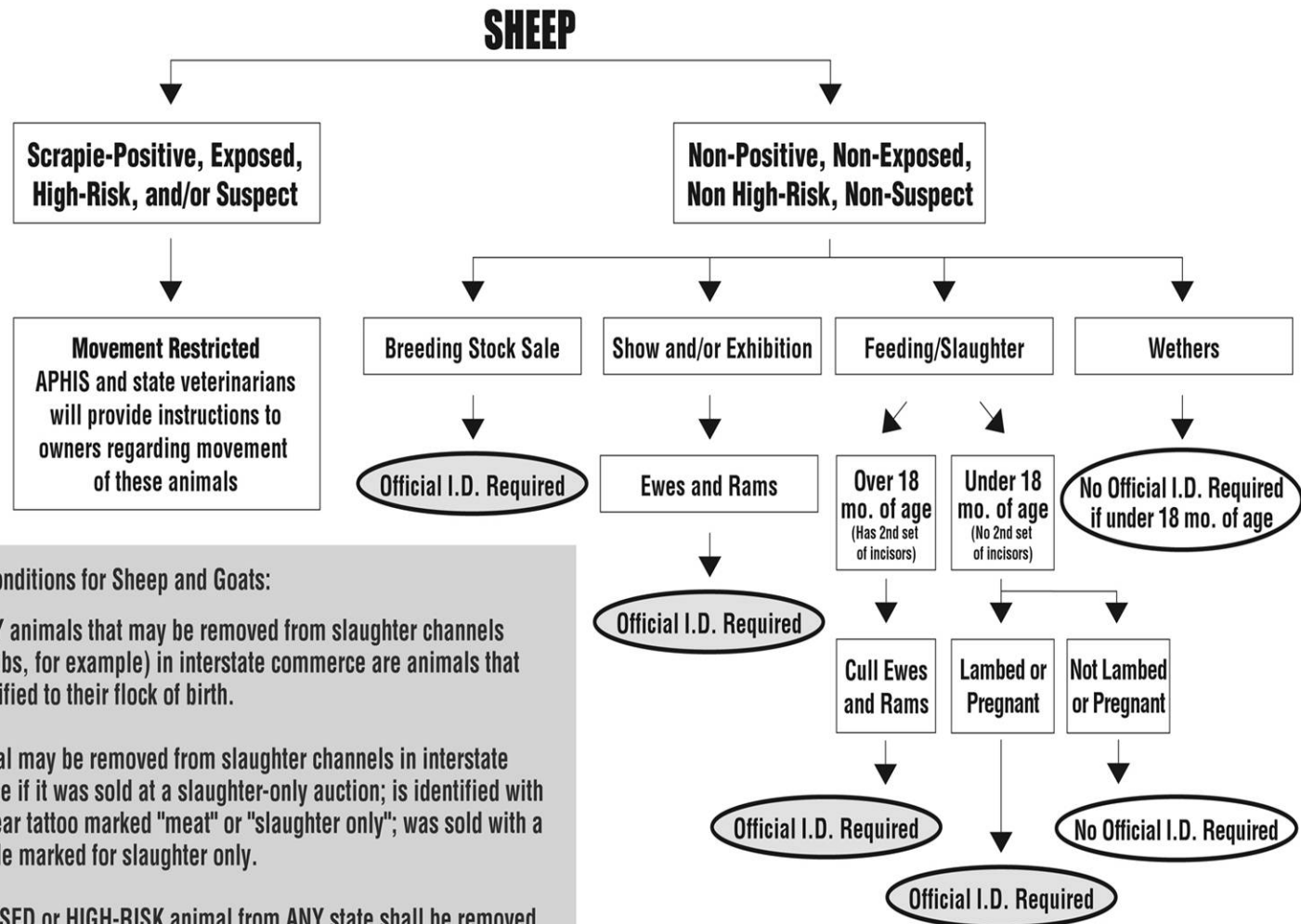
Classes of Sheep NOT Required to be Identified

- Slaughter sheep under 18 months
- Wethers for exhibition and those under 18 months of age
- Animals shipped directly to approved slaughter facility or approved market when all animals in a section of a truck are from the same premises of origin and accompanied by an owners statement
- Animals moved for grazing from a premises owned or leased by the owner of the animals to another premises owned or leased by the owner of the animals



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General Conditions for Sheep and Goats:

- The ONLY animals that may be removed from slaughter channels (ewe lambs, for example) in interstate commerce are animals that are identified to their flock of birth.
- NO animal may be removed from slaughter channels in interstate commerce if it was sold at a slaughter-only auction; is identified with a tag or ear tattoo marked "meat" or "slaughter only"; was sold with a bill of sale marked for slaughter only.
- NO EXPOSED or HIGH-RISK animal from ANY state shall be removed from slaughter channels once it has entered interstate commerce.



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Identification System

- A scrapie premises identification number (flock identification number) and free ear tags are requested from the local APHIS Veterinary Services Office or the state veterinarian's office by calling 1-866-USDA-TAG
- Other official tags can be purchased through specific, approved tag companies – found on the APHIS scrapie Web site
<http://www.aphis.usda.gov/vs/nahps/scrapie/>



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Types of Official Identification

- Official plastic or metal eartags
 - USDA provided eartags



- USDA approved eartags
- Electronic implants (SFCP)
- Registry tattoos and EIDs (certificate needed)
- Premises ID number tattoo with individual number
- Official backtags for animals moving directly to slaughter

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National Scrapie Eradication Program and the National Animal Identification System (NAIS)

- Utilize the existing national scrapie ID plan as a starting point (using scrapie premises ID number and production number)
- Need to move from a visual ID system to an electronic system to achieve the NAIS tracking goal of 48 hours
- Develop a group/lot ID system for groups of sheep that stay together
- Recognize the best system will be workable, affordable and accepted by buyers and sellers



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Differences between the scrapie premises ID number (PIN) and the NAIS (PIN)

- NAIS PIN is based on the physical location where animals are housed
- The scrapie PIN is based on whether a group of sheep is managed as a distinct unit with respect to disease risk and/or facilitates scrapie program management



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Transition to NAIS

- Register premise with NAIS and then provide the NAIS PIN to APHIS at 1-866-USDA-TAG for entry into the scrapie database
- Provide your scrapie PIN to the NAIS premises administrator when registering so that it can be associated with your NAIS PIN
- Continue ordering USDA provided tags by calling 1-866-USDA-TAG or purchase tags directly from USDA-approved tag companies



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After the Transition to NAIS

- NAIS PIN will replace the scrapie premises number in the SNGD (not the scrapie PIN that currently appears on tags)
- Companies producing scrapie approved tags that are NAIS compliant have become NAIS animal identification number managers for scrapie program tags
- Should NAIS becomes mandatory, official sheep tags that are not compliant with NAIS will no longer be provided
- Scrapie program tags acquired by producers before the transition will remain valid for the identification of sheep



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Testing for Scrapie

- Scrapie: Ovine Slaughter Surveillance Study (SOSS)
- Regulatory Scrapie Slaughter Surveillance (RSSS)
- Live animal testing



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Scrapie: Ovine Slaughter Surveillance Study

- Developed to estimate the regional and national prevalence of scrapie in mature cull sheep in the United States
- Time frame: April 1, 2002 – March 31, 2003
- Total testable samples: 12,491
 - Total positive: 33
- National prevalence estimate 0.2% or 1 in 500 culled mature sheep



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Regulatory Scrapie Slaughter Surveillance (RSSS)

- Began in April 2003
- Identify scrapie infected sheep at slaughter and trace back to farm of origin
- Total samples collected and reported through June 2006: 90,351
 - Total with positive results through June 2006: 258

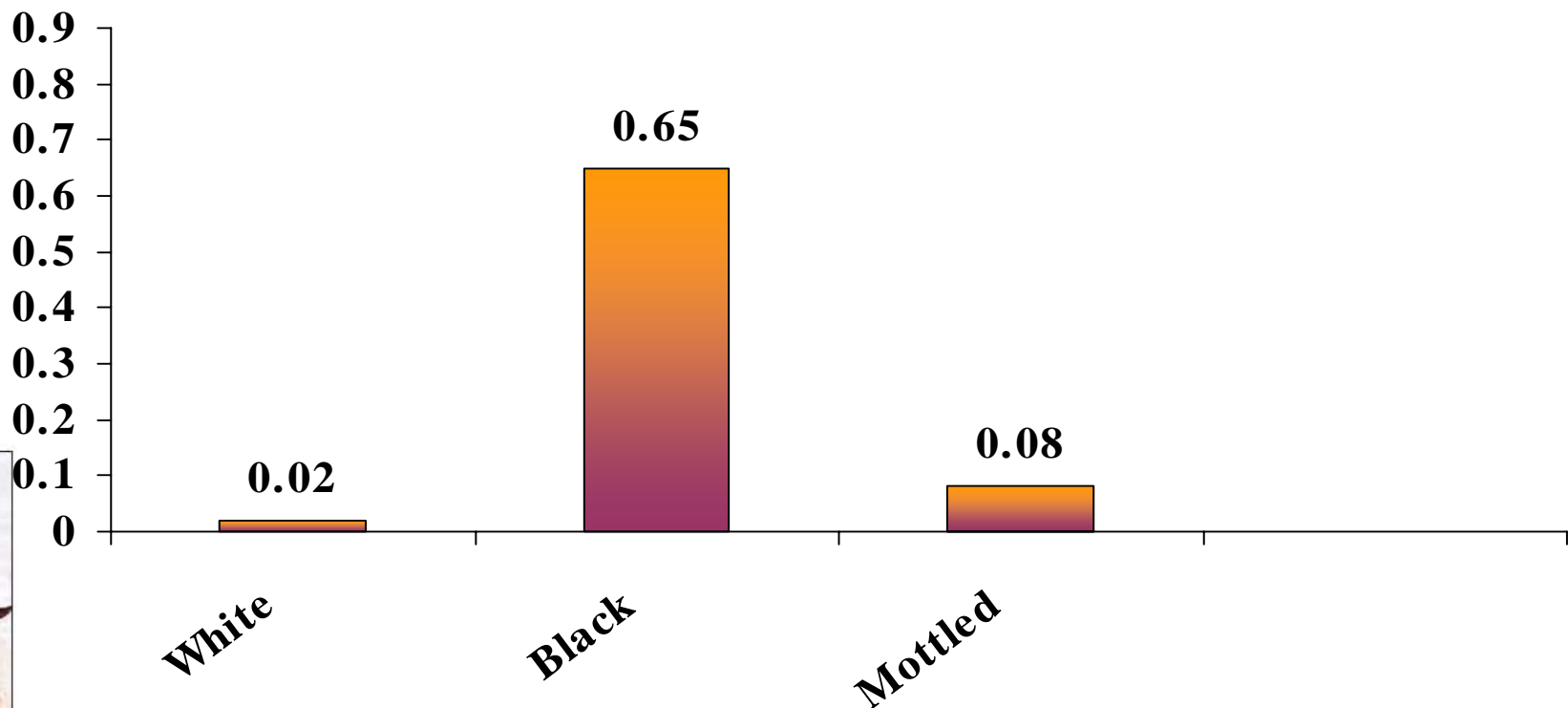


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RSSS Samples Positive by Face Color for October 2003 through June 2006



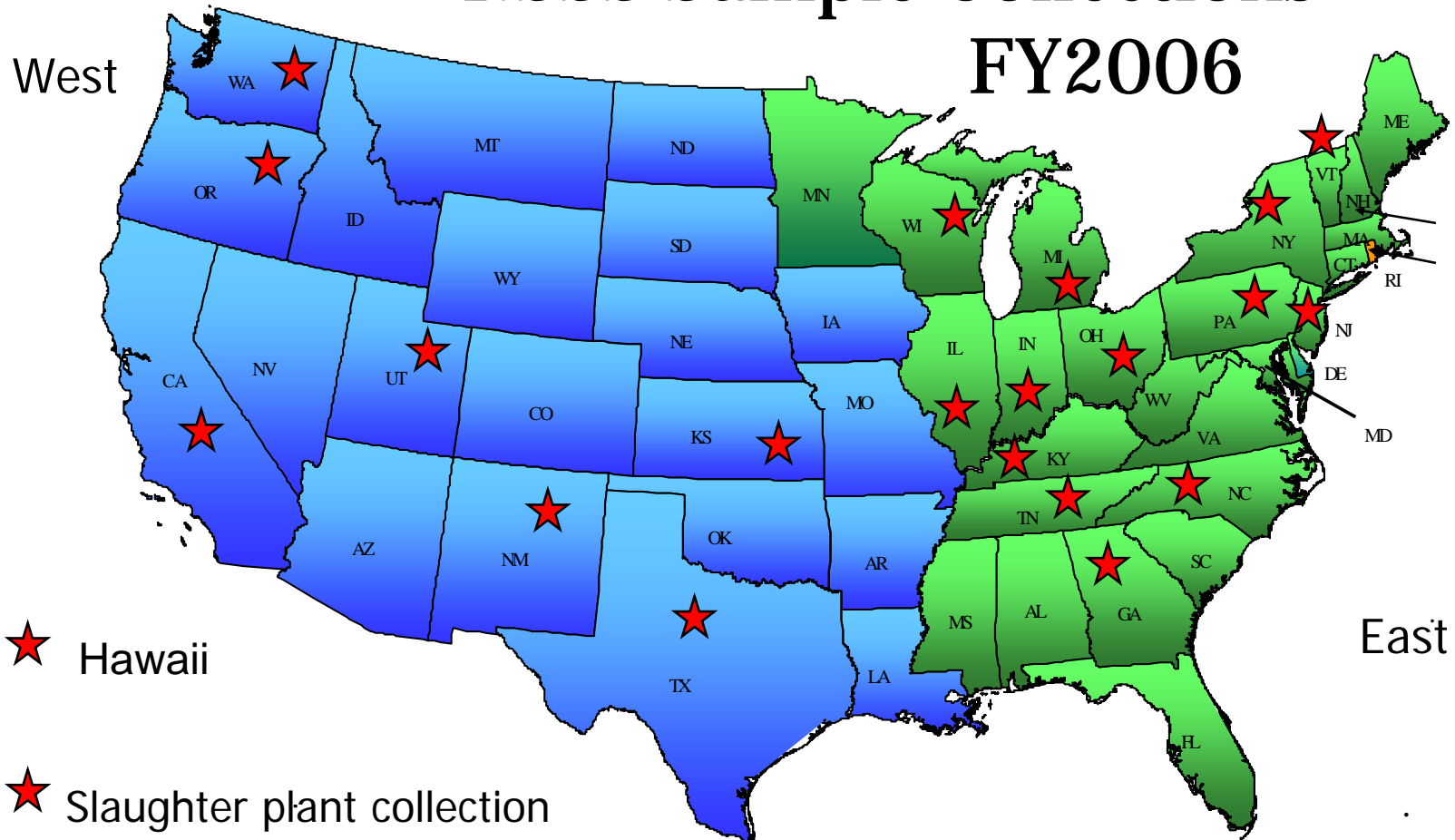
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RSSS Sample Collections

FY2006



68 slaughter plants in 22 states
13 laboratories

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Live Animal Testing

- Immunohistchemistry (IHC) on lymphoid tissue was approved as an official test in 2003
 - Third eyelid test
- Total field cases tested positive using this test through June 2006 was 143. In FY 2006 28 positive sheep have been detected with the IHC third eyelid test.



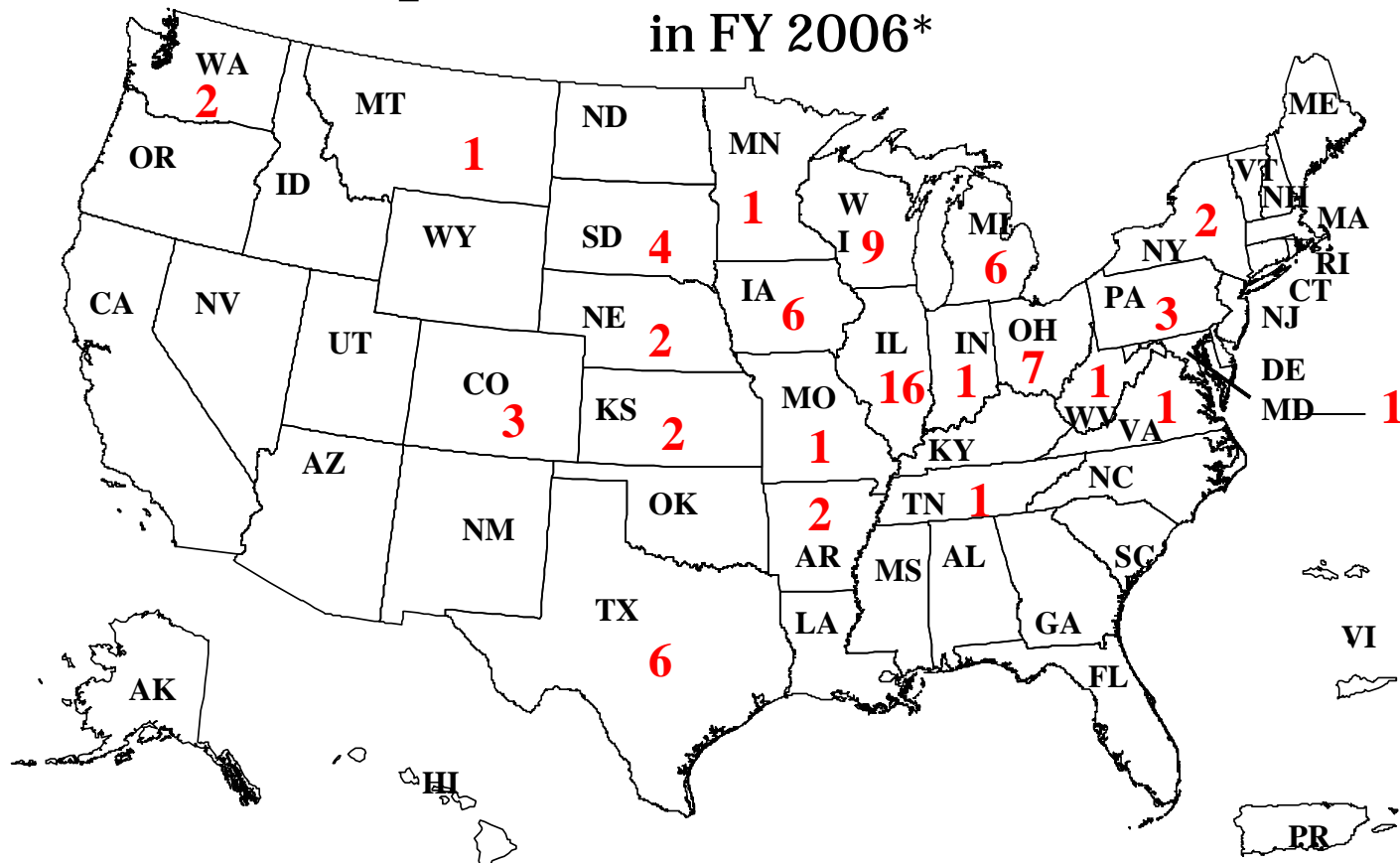
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New Scrapie Infected and Source Flocks

in FY 2006*



Total Infected and Source Flocks = 77

*Through June 30, 2006



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National Scrapie Eradication Program Goal

- Eliminate scrapie outbreaks by 2010
- United States be declared scrapie-free in 2017 by the Office International des Epizooties (OIE)

