Chronic Wasting Disease (CWD)

Key Points:

- Chronic Wasting Disease (CWD) has been found in 15 counties in Tennessee.
- It is essential for hunters and landowners to stay informed and take precautions against CWD.
- More research is being done to study the effects and transmission of CWD.
- When CWD is found in an area, hunting rates most often decrease due to restrictions on the animals killed, which can, in turn, increase the population of deer for a period of time.

Questions:

1. **Has the presence of CWD discouraged hunting in your area?**
2. **How aware are farmers in your area of the possible effects of CWD?**

Background

Chronic Wasting Disease (CWD) has become a growing problem in deer and elk species in North America. CWD is a disease caused by a type of protein called prions. Prion diseases, also known as transmissible spongiform encephalopathies or TSEs, are a group of rare, fatal brain diseases which affect animals and humans. Prion diseases are most commonly spread through direct or indirect contact within an animal's environment from bodily fluids. Once these prions are introduced to an area of the environment, they are extremely contagious and can spread very quickly throughout a group of deer or elk populations. **Even after the infected animal has died, the proteins causing CWD can still be found within the environment for an extended period of time.**

Even after the infected animal has died, the proteins causing CWD can still be found within the environment for an extended period of time.

Much like other diseases caused by prions, CWD can have an incubation period of 18-24 months, and most neurological symptoms caused by this disease are developed extremely slowly. **Deer infected with CWD are likely to not show any symptoms of the disease for over a year.** However, as the infection progresses, animals will have changes in behavior and appearance. Some of these include:

- drastic weight loss (wasting)
- stumbling
- lack of coordination
- listlessness
- drooling
- excessive thirst or urination
- drooping ears
- lack of fear of people

Deer infected with CWD are likely to not show any symptoms of the disease for over a year.

CWD, along with all other prion diseases, is very concerning for a variety of reasons. A large concern is eating meat of animals with CWD. It is essential hunters stay informed of areas affected by CWD and consider many factors when deciding whether to eat meat from deer harvested from an affected area. Hunters should continually check public health and state wildlife guidance to see whether testing of harvested animals is required. In areas where CWD has been detected, hunters should strongly consider having the animals they harvest tested before eating the meat. Prion diseases have been known to jump across species barriers in some instances. Bovine Spongiform Encephalopathy or "mad cow disease" has transmitted to humans as a result of eating the infected meat. Although this has not yet been seen with CWD, it is unknown if this may be a possibility in the future. **Additionally, prions can be absorbed by plants such as alfalfa, corn, and tomatoes, according to new research from the National Wildlife Health Center (NWHC) in Madison, Wisconsin.** The NWHC's prion research suggests that prions are absorbed by plants and that contaminated plants may present a previously unrecognized risk of exposure to CWD and other prion diseases.

Additionally, prions can be absorbed by plants such as alfalfa, corn, and tomatoes, according to new research from the National Wildlife Health Center (NWHC) in Madison, Wisconsin.

CWD has been found in 27 states, including Tennessee, as of January 2022. Nationwide, the number of CWD cases are relatively low. However, transmission rates may exceed 10% in some areas, and localized rates of more than 25% have been reported.

The long-term effects of this disease are currently unknown, but research is being done across Tennessee to hopefully give a better understanding of its effects. Other states have experienced outbreaks of CWD and have seen declines of 40% in deer populations where the disease is present. Other states have seen a shift in the age structure of deer populations, meaning there is limited to no older age deer**. In addition, when CWD is found in an area, hunting rates most often decrease due to restrictions on the animals killed, which can, in turn, increase the population of deer for a period of time.** Since CWD can take up to two years to become fatal, if hunting rates drop, the result may actually be a short-term increase in deer population. **This outcome is not desirable, so it is essential hunters and landowners are aware of this disease and its effects to effectively manage the spread.** Tennessee Wildlife Resource Agency is committed to prevent these outcomes and protect the population of deer.

In addition, when CWD is found in an area, hunting rates most often decrease due to restrictions on the animals killed, which can, in turn, increase the population of deer for a period of time.

In 2021, University of Tennessee (UT) Institute of Agriculture, AgResearch, and the One Health Initiative jointly formed the *CWD Working Group,* comprised of nearly 20 UT scientists in the fields of wildlife health, human dimension, communications, brain science, soil science, mathematical modeling, diagnosis, and sensor technology. **The goal of the *CWD Working Group* is to contribute to the management of CWD in the state and beyond through facilitating UT faculty's activities on CWD (research, training, and outreach) and synergizing those activities with state and federal agencies.**

CWD has been found in wild white-tailed deer in fifteen **Positive Counties**: Chester, Crockett, Dyer, Fayette, Gibson, Hardeman, Hardin, Haywood, Henry, Lauderdale, Madison, McNairy, Shelby, Tipton, and Weakley.

Additionally, CWD has been detected within 10 miles of the border of six **High-risk Counties**: Carroll, Decatur, Henderson, Lake, Obion, and Wayne.