Determining Practical Standing-Corn Snow Fence Configuration through the Evaluation of Drift Characteristics

Sheri Anderson  
Office of Maintenance  
Iowa Department of Transportation  
800 Lincoln Way  
Ames, IA 50010  
sheri.r.anderson@dot.iowa.gov

Dennis Burkheimer  
Office of Maintenance  
Iowa Department of Transportation  
800 Lincoln Way  
Ames, IA 50010  
dennis.burkheimer@dot.iowa.gov

Jim Dowd  
Office of Maintenance  
Iowa Department of Transportation  
800 Lincoln Way  
Ames, IA 50010  
jim.dowd@dot.iowa.gov

Tina Greenfield  
Office of Maintenance  
Iowa Department of Transportation  
800 Lincoln Way  
Ames, IA 50010  
tina.greenfield@dot.iowa.gov

ABSTRACT

Snow fences are an effective means for preventing snow buildup on road surfaces and reduced visibility caused by blowing snow. The Iowa Department of Transportation establishes contracts with Iowa farmers to leave rows of unharvested corn through the winter to act as a natural snow fence. Accepted guidelines regarding traditional man-made snow fence placement with respect to the road may not be appropriate for standing-corn snow fences because the drift configuration resulting from standing-corn snow fences are different from those resulting from other more common snow fence types. It was necessary to determine the appropriate distance from the standing-corn snow fence to the edge of the roadway because it is usually best for the farmer to leave the corn near the edge of the field next to the highway right-of-way, but placement too close to the road can result in a drift forming on the road itself.

In the winter of 2006–2007, the Iowa Department of Transportation conducted an evaluation of the drift characteristics of 12 rows of standing corn to determine the minimum distance between the standing corn and the road. Measurement stakes were driven into the ground at regular intervals upwind of the fence, through the corn rows, and extending to the right-of-way line to allow the researchers to track the depth and evolution of the drift through the entire winter. The results of this evaluation determined that a standing-corn snow fence placed near the highway right-of-way is far enough from the road to protect the area from blowing and drifting snow if sufficiently small amounts of snow are experienced during the winter. If more severe blowing snow conditions are present, the drift formed by the standing-corn snow fence may encroach on the road if the corn rows are placed near the right-of-way. Standing-corn snow fence placement guidelines will be presented.

Key words: snow fence—winter maintenance