INTRODUCTION

Sulfoxaflor is the first member of the sulfoximine class of insecticides. It is considered an agonist of nicotinic acetylcholine receptor (nAChR) and belongs to IRAC (Insecticide Resistance Action Committee) Code 4C. In laboratory experiments, sulfoxaflor was found to be highly efficacious against target insects those displayed resistant to neonictinoids such as imidacloprid. Sulfoxaflor is a systemic insecticide registered by EPA to control piercing/sucking insects such as aphids, stink bugs, plant bugs, and thrips on a variety of row crops. Sulfoxaflor is formulated as a suspension-concentrate (SC) and as water dispersible granules (WDG) containing. Applications can be made with either ground or aerial equipment. Sulfoxaflor can also be applied through chemigation systems (potatoes only).

It was first registered by EPA for emergency use on cotton to control tarnished plant bug, Lygus lineolaris, in select states in June 2012. Its use was extended to other crops (e.g., soybean) in 2013, and it was first registered in Minnesota in June of 2013. In late 2015, all uses were cancelled following a court order concerning potential risks to bees; however, in 2016, sulfoxaflor was approved for uses where exposure of bees could be prevented. In July 2019, sulfoxaflor was registered for select new uses, including use on corn. The Minnesota Department of Agriculture’s (MDA) extensive review of the U.S. Environmental Protection Agency (EPA) sulfoxaflor labels and risk assessments for issues relevant to Minnesota is summarized below.

PROJECTED USE IN MINNESOTA

Sulfoxaflor is registered for use on the following major crops in Minnesota: corn, soybeans, potatoes, wheat. According to UMN extension, sulfoxaflor worked well against aphids in soybean and potatoes. It will be of use against piercing/sucking insects such as aphids, leafhoppers, plant bugs, etc. Sulfoxaflor is also registered for use on ornamentals in nurseries.

Two end-use products containing sulfoxaflor are currently registered in Minnesota:

- **Closer® SC** (EPA Reg. No.62719-623) – This product is a suspension concentrate (SC) containing 21.8% sulfoxaflor for foliar application to all approved crops.
- **Transform® WG** (EPA Reg. No.62719-625) – This is a water dispersible granular (WDG) product containing 50% sulfoxaflor for foliar application to all approved crops.
All active ingredient technical information, risk assessment values, fate and transport data, and label hazards have been summarized from final registration documents available at www.regulations.gov Docket ID: EPA-HQ-OPP-2010-0889.