

HERBICIDE

For all herbicide applications, the following provisions shall apply.

1. Follow all laws, rules and regulations related to the handling of pesticides, including but not limited to:
 - a. Follow all herbicide label directions, restrictions, and precautions.
 - b. The company responsible for the herbicide applicator must be licensed with Iowa Department of Agriculture and Land Stewardship (IDALS) as a commercial pesticide applicator company.
 - c. The person applying the herbicide must be certified through IDALS as a pesticide applicator in Category 6, Right-of-Way. For herbicide applications that require an aquatic certification, the applicator must also be certified as a pesticide applicator in Category 5, Aquatics.
 - d. Use herbicide and adjuvant products labeled for the application site:
 - i. For applications on the primary highway right-of-way, use only products labeled for use on highway rights-of-way or roadsides.
 - ii. For applications to or over water, use only products labeled for corresponding use in aquatic sites, unless intermittent pockets of standing water, such as tire ruts, and the product is labeled for such use.
 - iii. For applications to areas in the water conveyance portion of the ditch that do not contain water at the time of application, use only products labeled for non-irrigation ditch banks or aquatic sites.
 - e. Do not apply any herbicide to or over standing or flowing water unless required coverage is obtained under a National Pollutant Discharge and Elimination System (NPDES) Pesticide Discharge Permit through Iowa DNR. If standing or flowing water is encountered in areas when they need to be sprayed, notify Iowa DOT (Roadside Development) to determine required coverage.
2. Schedule work according to weather conditions and take measures to avoid off-target damage, such as runoff, leaching, drift and volatilization.
 - a. Do not spray herbicide 24 hours prior to forecast precipitation that is expected to cause significant runoff conditions.
 - b. For areas with saturated soil, such as ditch bottoms, do not spray herbicide 24 hours prior to forecast precipitation, unless using products labeled for aquatic sites.
 - c. For conventional applications, avoid applications when wind speed exceeds 10 mph. For invert applications, avoid applications when wind speed exceeds 15 mph.
 - d. For conventional foliar applications, use a drift retardant and maintain drift control throughout the application period by adding more to the tank as it breaks down from agitation.
 - e. Avoid spraying volatile products when temperatures are forecast to exceed 85° F within 3 days.
 - f. Check the IDALS Sensitive Crops Directory and do not spray adjacent to a listed operation when wind is blowing towards it.
3. Respond to allegations of any off-target damage attributed to handling and spraying of herbicide.
4. Provide the following documents to the Engineer for approval not less than 2 weeks prior to the application.
 - a. A copy of the herbicide and adjuvant labels, including

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any applicable supplemental labels.

- b. A copy of the herbicide and adjuvant Material Safety Data Sheets (MSDS.)
5. Have copies of the herbicide and adjuvant labels and MSDSs on-hand and at locations of storage, transport, and application.
6. Schedule work to maximize efficiency of the herbicide application in relation to weather conditions and plant growth stage. Follow any label recommendations given as "for best results."
 - a. For weed applications:
 - i. To determine if weeds are "actively growing," use as a guideline that there needs to have been at least 1 hour of temperature above 65° F and 1 hour of sun in the day prior to, of, or forecast before a rain the day after the application.
 - ii. For spring applications to thistles, apply after basal leaves of Canada thistles are fully extended, and after rosettes of musk thistle are at least 8 inches diameter, but before flower stage.
 - iii. For fall applications to thistles, apply prior to the second hard freeze of 28° F, unless otherwise listed in the label directions.
 - b. For tree and brush applications:
 - i. For foliar applications and cut stump/surface applications with water-soluble products, apply after leaves are fully opened in the spring and prior to leaf discoloration in the fall.
 - ii. For cut stump applications with oil soluble products, do not apply during periods of heavy sap flow. Use as a guideline that heavy sap flow occurs in late winter to early spring when nighttime temperatures below 32° F are followed by daytime temperatures above 32° F with sunny conditions.
 - iii. For cut stump and basal bark applications, add sufficient dye so that treated areas are visible to inspection 7 days after application.
7. Notify the Engineer prior to calibrating, mixing and applying herbicides, including incidental items.
8. Provide copies of daily spray logs to the RCE at the end of each week of spraying (form provided by Iowa DOT).
9. If Contractor does not complete spray item on schedule, the Engineer may adjust the schedule.