# Cide-Kick Enhancement of Water Based Stem Treatments

2013


## Summary

During the summer of 2012, the adjuvants Cide-Kick and DyneAmic were added at various concentrations to the herbicide Invora and applied as a water based, stem spray to mesquite in Menard, Coke and McCulloch Counties. Treatments applied also included the Brush Busters recommended stem spray treatment, 15% Remedy Ultra + 85% diesel.

One year following treatment the addition of Cid-Kick at a concentration of 2% or greater to the water based stem sprays generally improved mesquite control, although it was difficult to maintain Cide-Kick in solution at concentrations above 2%. There was considerable variation within the data probably due to this solubility issue.

This data should be considered preliminary. All plots will be re-evaluated in 2014.


## Introduction

For decades, the most effective basal stem herbicide treatment to control mesquite has been a mixture of the herbicide Remedy mixed with diesel or basal oil. Past attempts to substitute water for the diesel or basal oil in the spray mix have not been successful.

Cide-Kick is a spray adjuvant that is best described as a surfactant/penetrant. There is no information on the potential benefit of adding Cide-Kick to water based stem sprays to enhance efficacy of those treatments.

Invora is a new DuPont Crop Protection herbicide currently labeled for use on non-cropland areas. Invora is a mixture of the herbicides aminocyclopyrachlor and triclopyr, both as amine, water soluble formulations. Although Invora is known to have activity on mesquite, it is not known if this water soluble herbicide would be effective if mixed with water and applied as a basal stem spray and if adjuvants can be used to enhance efficacy.

Invora is not currently labeled for use on rangelands and pastures, although registration is probable in the near future.

## Objectives

Define the efficacy of Invora with increasing concentrations of Cide-Kick when applied as a basal stem spray for control of mesquite.

## Materials/Methods

Treatments applied included 2 rates of the herbicide Invora mixed with water and with the addition of either 1 rate of DyneAmic or 4 increasing rates of Cide-Kick. The trials also included the Brush Busters recommended treatment of 15% Remedy Ultra + 85% diesel.

Treatments were applied using a small hand-pump "windex" type applicator. Basal stems were sprayed until wet but not to the point of dripping. At least 20 plants were treated per treatment.

Treatment sites were located in McCulloch, Coke and Menard Counties (Table 1).

**Table 1. County, date of application and ranch for treatment sites.**

| County | Date | Ranch |
|---|---|---|
| McCulloch | 8/21/12 | ? |
| Menard | 8/23/12 | Jacoby |
| Coke | 9/5/12 | Blair |

## Results/Discussion/Economic Impact

One year following treatment the addition of Cid-Kick at a concentration of 2% or greater to the water based stem sprays generally improved mesquite control, although it was difficult to maintain Cide-Kick in solution at concentrations above 2% (Table 2). There was considerable variation within the data, probably due to this solubility issue.

This data should be considered preliminary. All plots will be re-evaluated in 2014.

**Table 2. Percent apparent mortality of mesquite 1 year following treatment with low-volume stem spray.**

| Carrier | Invora Rate | County | | | Average |
|---|---|---|---|---|---|
| | | McCulloch | Menard | Coke | |
| 1% DyneAmic | 1 | 29 | 73 | 33 | 45 |
| | 2 | 67 | 74 | 50 | 64 |
| 1% CideKick | 1 | 46 | 22 | 67 | 45 |
| | 2 | 100 | 95 | 0 | 65 |
| 2% CideKick | 1 | 67 | 60 | 70 | 66 |
| | 2 | 100 | 79 | 71 | 83 |
| 4% CideKick | 1 | 43 | 22 | 93 | 53 |
| | 2 | 60 | 77 | 43 | 60 |
| 8% CideKick | 1 | 64 | 80 | 82 | 75 |
| | 2 | 95 | 91 | 60 | 82 |
| 85% Diesel | 15% Remedy | 90 | 90 | 85 | 88 |

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