

The Comparison of Aerial and Sprinkler Applied Delayed Applications of Kerb to Lettuce

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Abstract

Five tests were conducted to compare delayed applications of Kerb applied by air with applications made through sprinklers. Applications were made commercially to plots ranging in size from 11 to 18 acres. Broadleaf weed control was better in all tests from the sprinkler applied Kerb than from aerial application. The control of volunteer sudangrass was poor in one test from both types of applications and worse from the sprinkler than the aerial application. It was concluded that applying Kerb through sprinklers to lettuce is effective and often superior to aerial applications.

Introduction

It has become a common practice to delay applications of Kerb when using sprinklers to establish lettuce in the low desert where high volumes of water are applied prior to weed germination. Prior to the 2003-04 season, the only option for making applications to wet fields was by air. A third party special local need registration (24C) label was granted to the Western Growers Association in the summer of 2003 which allows for the application of Kerb through sprinklers in Arizona. According to the Association records, approximately 21,000 acres of lettuce were treated with sprinkler applied Kerb during the 2003-04 season. Tests conducted in 2002-03 season indicated that sprinkler applications were effective and sometimes superior to aerial applications. Additional tests were conducted this season.

Materials and Methods

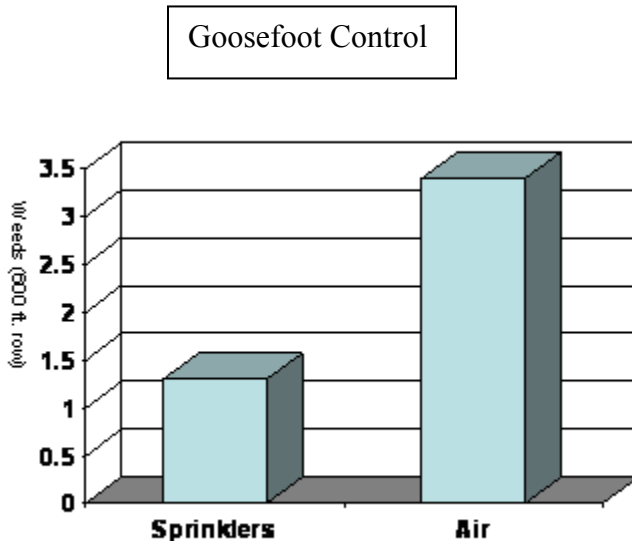
This project was intended to compare application techniques on a commercial scale and could not be conducted with small plots under controlled conditions. Five tests were conducted between June 2002 and January 2004 by dividing 20 to 40 acre blocks in half and applying an equal rate of Kerb through sprinklers on one half and by air on the other half. Sprinklers were run from 4 to 6 hours after application on both halves except in test number 5, which was included here not as an equal comparison of aerial and sprinkler applied Kerb, but to demonstrate the importance of proper water management when using this technique. In test number 5 the sprinkler applied to half of the field received an additional 2 inches of water following the Kerb application, and resulted in significantly inferior weed control compared to the other half applied by air. Weed counts were made just prior to thinning on 10 randomly selected beds and are reported as an average of the 10 with a description of each test.

Test No.	Grower/PCA	Plot Size (ac.)	Kerb Applied Days after sprinklers	Rate (lb./ac)	Date Applied	Date Evaluated	Weeds
1	Pasquinelli / J. Havens	18	4	1.3	12-11-03	1-15-04	N. Goosefoot
2	Amigo / J. Nigh	11	5	1.3	12-31-03	1-30-04	Shepardspurse Sudan
3	Curry / B. Fox	17	3	1.3	10-20-02	11-19-02	Shepardspurse
4	Amigo / J. Nigh	13	1	1.5	6-5-02	6-25-02	Purslane, Ground cherry
5	Harrison / B. Fox	17	3	1.7	12-4-03	1-6-04	Shepardspurse

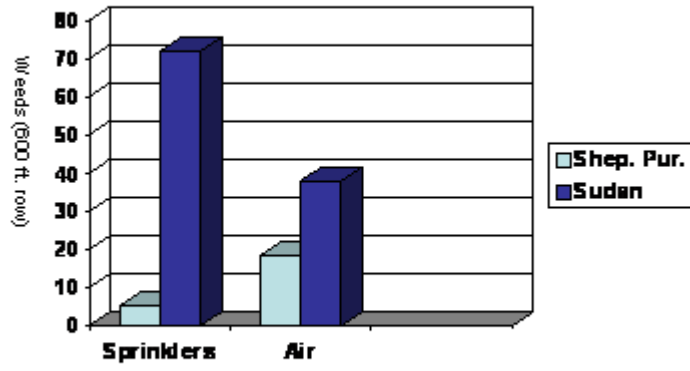
Results and Discussion

The results of the tests included in this project are presented in graphs 1-5. Broadleaf weed control was better in all tests from the sprinkler applied Kerb than from the aerial applications. Test 5 was not an equal comparison of the two application techniques because of the extra water applied to the sprinkler applied section of this field. Sudangrass control was poor in test 2 and worse in the sprinkler applied section. The reason for this is unclear. Crop injury occurred only in test 1 and this was thought to be from cold temperatures rather than from the herbicide. It was equally present in both the aerial and sprinkler applied sections of the field. It can be concluded from these tests that applying Kerb through sprinklers to lettuce is effective and often superior to aerial applications. Proper timing and water management are necessary for the success of both aerial and sprinkler applications.

Test 1

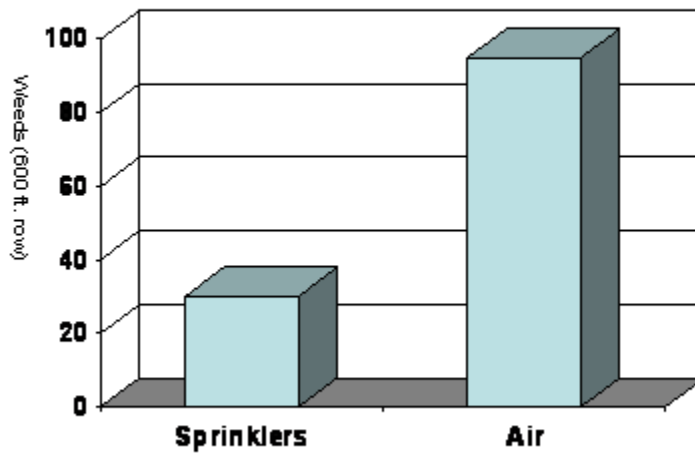


Test 2

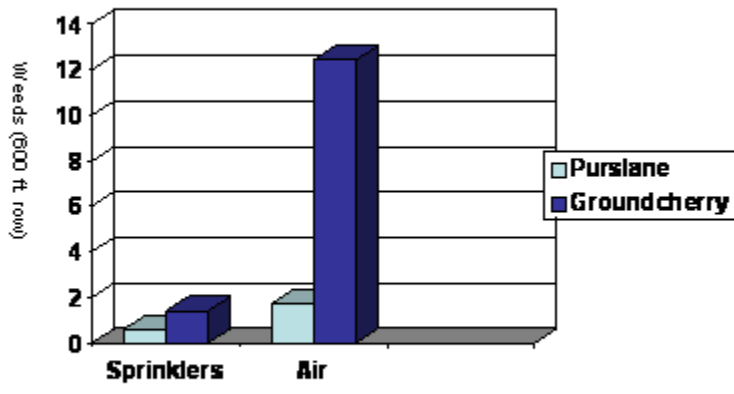


Test 3

Shepardspurse Control



Test 4



Test 5

Shepardspurse Control

