

Admire® Aphid Control in Spring Cabbage

Kai Umeda and Chris Fredman

Abstract

*Imidacloprid (Admire®) was applied at planting time in anticipation of providing aphid control in cabbage for spring harvest. In three commercially treated cabbage fields, Admire reduced the number of cabbage (*Brevicoryne brassicae*) and green peach aphids (*Myzus persicae*). Two rates of Admire, 10 and 20 oz/A appeared to be similar in performance for efficacy against aphids. Depth of placement of Admire in the soil below the seed appears to have some influence on the efficacy and consistency of performance. Much fewer aphids and greater consistency was observed when Admire was placed at 1-inch depth below the seed compared to 3- to 4-inches below the seed.*

Introduction

Aphids generally are a pest of cole crops in the spring season from February to April in Central Arizona. The loss of mevinphos (Phosdrin®) changed the pest management strategies against aphids in cabbage. Imidacloprid (Admire) was introduced as an effective insecticide against whiteflies and having translocating properties within the plant showed efficacy against a broader range of Homopteran insect pests such as aphids. The objective of these field studies were to evaluate and determine the effective rates of Admire and depth of placement for efficacy against spring aphid populations in cabbage.

Materials and Methods

Three field tests were conducted within commercially grown cabbage fields in Waddell and two in Goodyear. The treatment plot size was four or sixteen conventional 40-inch beds by the length of the field, 1000 to 1300 ft. Treatments were duplicated and untreated check sections were randomly selected within the plots measuring 100 ft. Treatments were applied using a tractor-mounted injector with shanks placed in the seed row. At Goodyear, the shanks were placed 3-to4-inches depth below the planting depth of the seed and applied in 12 gallons per acre of water. The early spring application was on 20 Jan 1995 and the second planting was 04 Feb 1995. At Waddell, the shanks were placed at approximately 1-inch depth below the seed and Admire applied in 28 gallons per acre of water on 20 Jan 1995. Cabbage was planted immediately after injection and furrow irrigated at both sites. Aphids were monitored during the entire season and 10 plants per treatment were evaluated for non-winged aphids.

Results and Discussion

In the two Goodyear tests, cabbage aphids (*Brevicoryne brassicae*) were the predominant species with few green peach aphids (*Myzus persicae*). The early application on 20 Jan showed that the 20 oz/A rate was consistent in reducing the aphid numbers in the cabbage (Figure 1). The lower rate was not consistent throughout the season. The later planting and application date exhibited better consistency for the length of the season and both rates appeared to be comparable in performance at most rating dates (Figure 2).

At the Waddell site, both 10 and 20 oz/A rates of application provided excellent control and extremely few aphids were detected in the treated cabbage for the entire season (Figure 3). These results indicate that Admire at 10 oz/A could be

as effective as the higher rate of 20 oz/A. The length of control may last the entire cabbage growing season in the spring. Placement of Admire at 1-inch below the seed offered very good efficacy and consistent aphid control. A deeper placement at 3-to 4-inches depth appeared to be less effective and consistent when applied early in the spring.

Acknowledgements

I would like to thank Sunfresh Farms and Rousseau Farming Company for providing the commercial cabbage fields and the time, personnel, and equipment to conduct the tests.

Figure 1. Admire aphid control
Early spring application in Goodyear

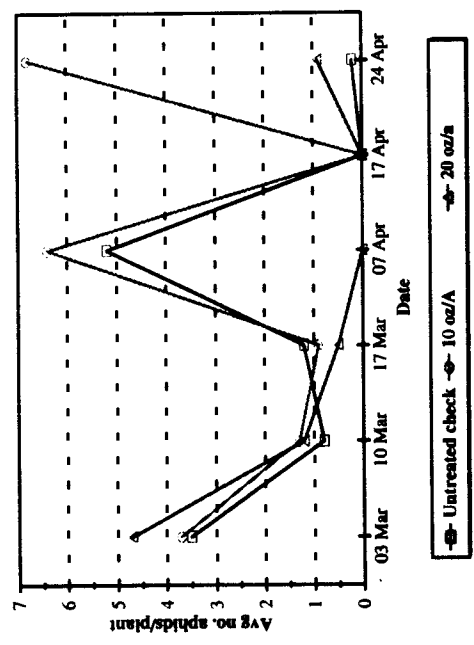


Figure 2. Admire aphid control
Late spring application in Goodyear

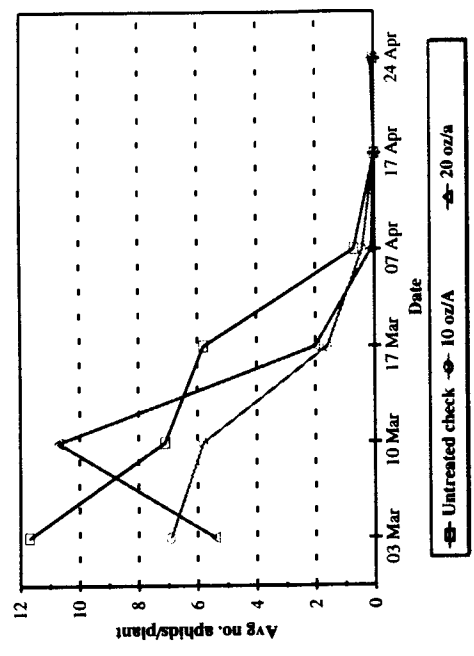


Figure 3. Admire aphid control
Spring application in Waddell

