

NEW JERSEY GRAIN AND FORAGE JOURNAL

*A COMPILATION OF RESEARCH AND
EXTENSION PROJECTS IN CORN, SOYBEAN, SMALL
GRAIN AND FORAGE*

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PREFACE

This is the sixth edition of the New Jersey Grain and Forage Journal, an annual journal highlighting research and extension projects in field crops. Traditionally the publication has presented work conducted in New Jersey. This year articles from Delaware and Pennsylvania are included as a result of collaborative efforts by field and forage crop agents, specialists and researchers from the Mid-Atlantic region.

Grain and forage production represents the largest agricultural acreage in the Mid-Atlantic States, adding significantly to and supporting related industries. Not only does this support the local and regional economy, but also provides the benefits of open space to the residents of the region.

We would like to acknowledge and thank the New Jersey Soybean Board and Grain and Forage Producers' Association for their financial support. The Soybean Board allocates soybean checkoff funds for research and promotional activities that benefit the soybean industry. The Grain and Forage Producers' Association promotes research, marketing, legislation and education related to the grain and forage industry.

We hope that these results will be helpful to you as you plant and produce crops in the 2000 growing season and beyond. Your suggestions for research and educational projects are always welcome, as it is our desire to develop programs that serve you most important needs.

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Two-Spotted Spider Mites in Alfalfa

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- Situation Statement** Two alfalfa fields in Salem County, NJ, were found with significant chlorosis or yellowing of foliage, affecting about 60% of one field and about 30% of the other, in September and October, 1998, respectively. The yellowing was more prevalent in the drier, more poorly growing areas of both fields. The symptoms were similar to potato leafhopper damage but few leafhoppers were present.
- Causal Agent or Factor** Two-spotted spider mites were found on the underside of plant leaflets. Spherical gray-white eggs, mites in various stages of development and fine webbing could be seen with a 10x-hand lens in the middle of the leaflets. The yellowing was a result of their feeding. The pattern of chlorosis is different for spider mites than it is for potato leafhoppers. Wedge-shaped yellowing at the leaflet tips indicates potato leafhopper damage. Yellowing resulting from spider mite feeding occurs in the center of the leaflets with the tips remaining green.
- Importance and Impact** Typically, spider mite populations build up on crop plants during periods of warm, dry weather. In southern New Jersey, soybean is usually the crop most affected by spider mites. They have multiple generations, which allow their populations to 'explode' under favorable conditions. Mites feed on plant sap from the leaves and, in large numbers, can severely stunt plant growth or even kill plants. They normally feed on the underside of leaves, piercing the leaf cuticle to suck plant sap, causing the yellowing of the upper leaf surface. Anyone looking at the field without investigating closely could easily misidentify the damage as potato leafhopper injury leading to the wrong management option. Since outbreaks of spider mites rarely occur on alfalfa in New Jersey, the problem could be easily misidentified.
- Recommendations** There are no known thresholds or registered miticides for spider mite control in alfalfa. Cultural practices, which include time of harvest, should be employed depending on the time of year, severity of infestation, maturity of crop and/or desired crop use.

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