FUNGICIDES ON CORN YIELD
Cooperative study with the Kane County Corn Growers Association & University of Illinois Crop Sciences Department

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The study of the effects of fungicides on corn yield was continued for a second year. Three study areas have been used both years. Two of these were located as part of the Kane County Corn Growers Association Variety Trial (KKCG) and the other is on the University of Illinois Northern Illinois Agronomy Research Center (NIARC). Two of the sites each year were first year corn following soybeans and the other was continuous corn.

Two DeKalb Brand varieties were selected to be used each year. One variety was selected that had more resistant to gray leaf spot than the other. In 2008, the plots were planted on May 10 at NIARC and May 21 at KCCG. IN 2009 the plots were planted on May 19 at NIARC and May 23 at KCCG. Five fungicide treatments were applied at the R-1 stage of plant development. Disease severity ratings were taken at all sites in September of the production year.

Although the disease levels were not high in either year, there was one individual fungicide treatment in 2008 that gave a 47 bushel per acre yield increase over the untreated check of that variety in the continuous corn area. In 2009, the response to fungicide was much lower. The following charts show the response to the fungicide as a summary of all sites for 2009, the individual sites for 2009 and a summary for all sites with the combined data for both years.

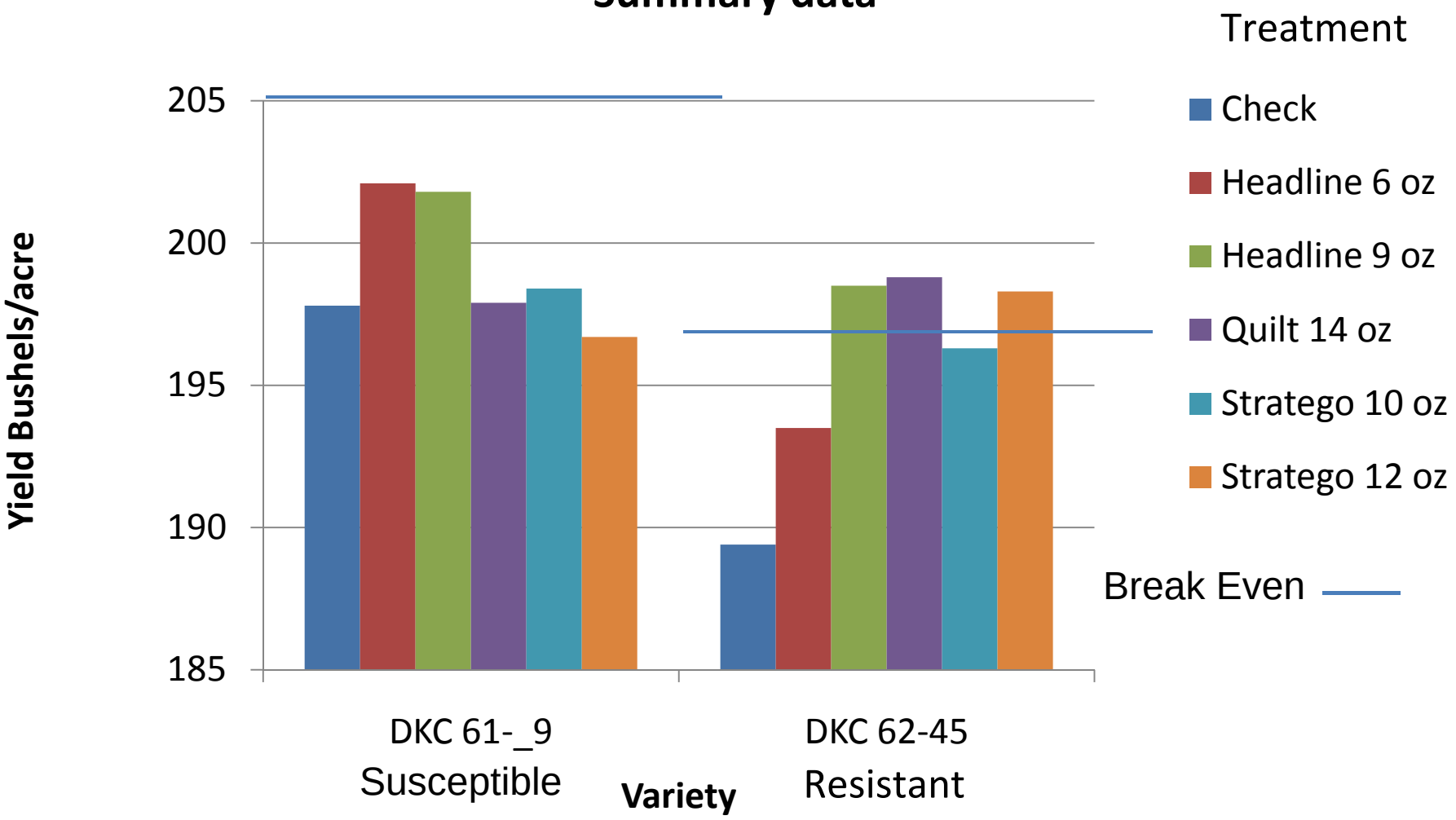
The cost of treatment on average was about equal to eight bushels of corn per acre in 2009 and about 6 bushels of corn per acre in 2008. The horizontal line in each chart with each variety is at approximately the breakeven point where the additional yield would have equaled the cost of treatment. The combined data chart used the breakeven point of seven bushels per acre.

In reviewing the data, the disease of concern was not gray leaf spot. The variety that was considered more resistant to that disease, but more susceptible to some other diseases benefited more from the fungicide application than the variety that was more resistant to gray leaf spot. Given modern breading practices and variety selection techniques, it is difficult to find commercially available varieties that are highly susceptible to any of the common diseases.

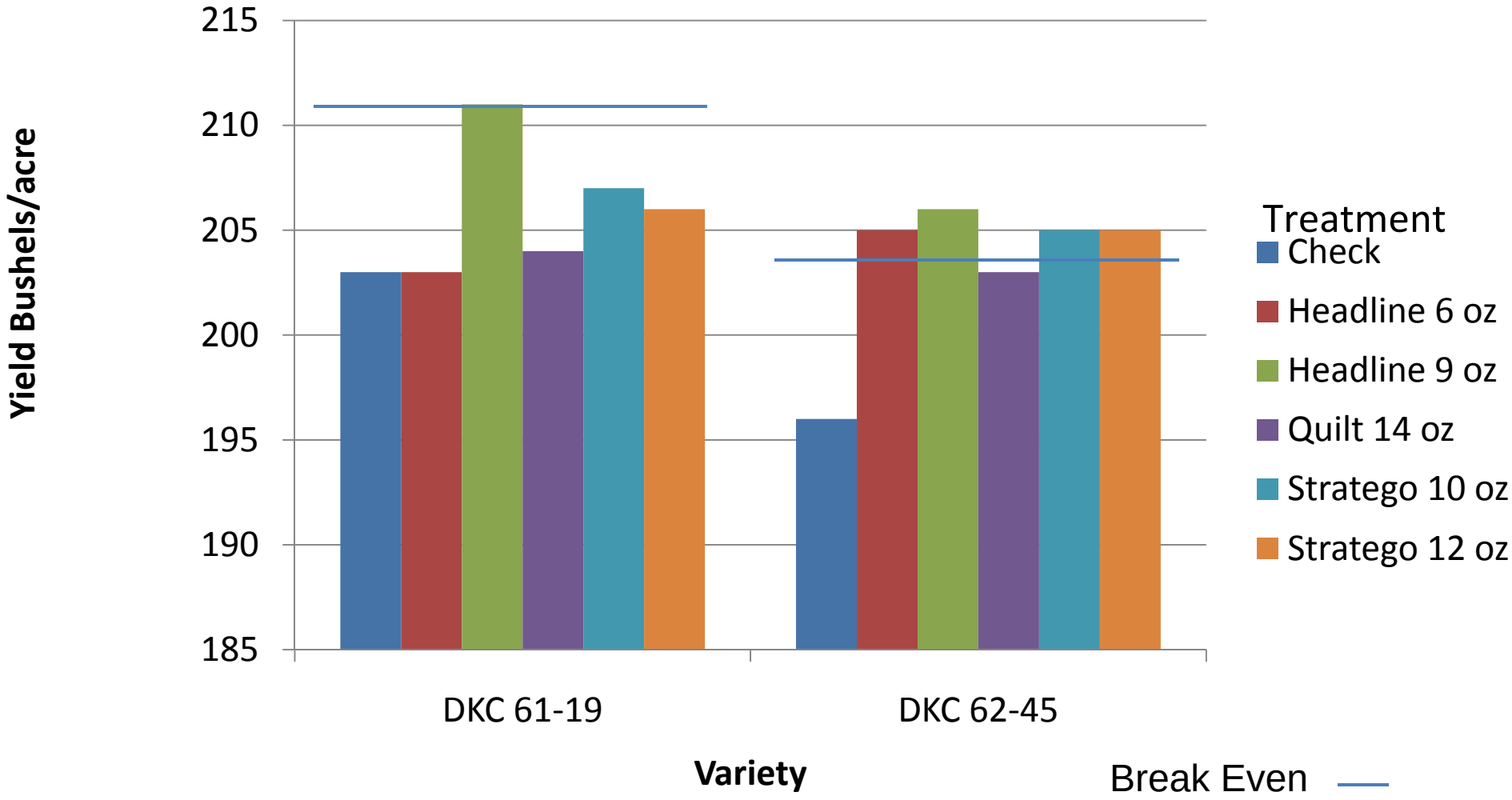
In this study, the selection of variety and the presence of disease determined whether the variety would benefit from the fungicide application. The average results for the two years showed that the more resistant variety to gray leaf spot benefited economically from all of the fungicide treatments and the more susceptible variety to gray leaf spot benefited from a couple of the treatments.

Knowing the disease susceptibility of an individual variety, the disease present and the potential for more disease development should be the factors used for determining if a fungicide treatment will be economically beneficial and which fungicide to use.

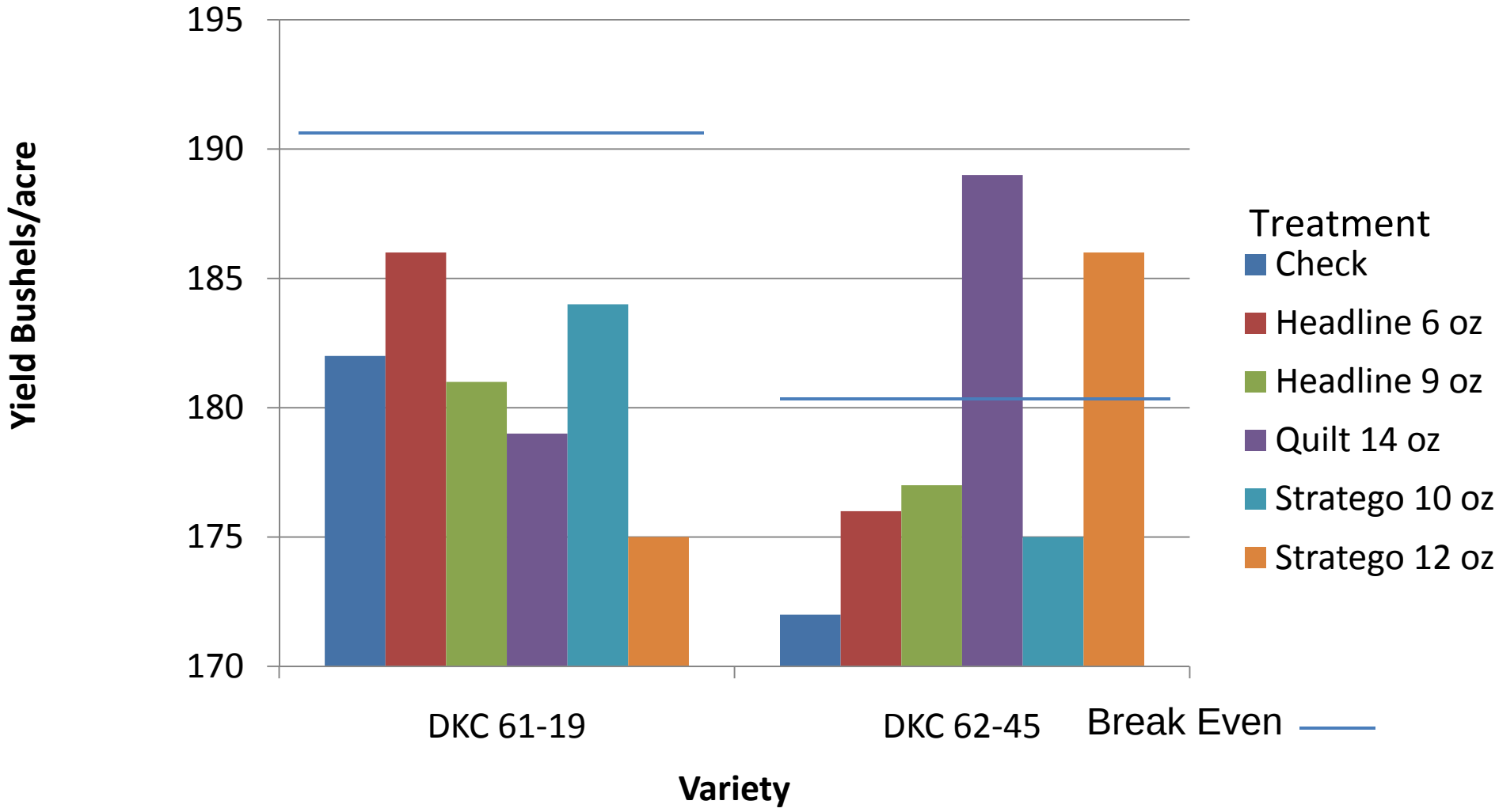
Kane County Corn Growers Corn Fungicide Study 2009
Summary data



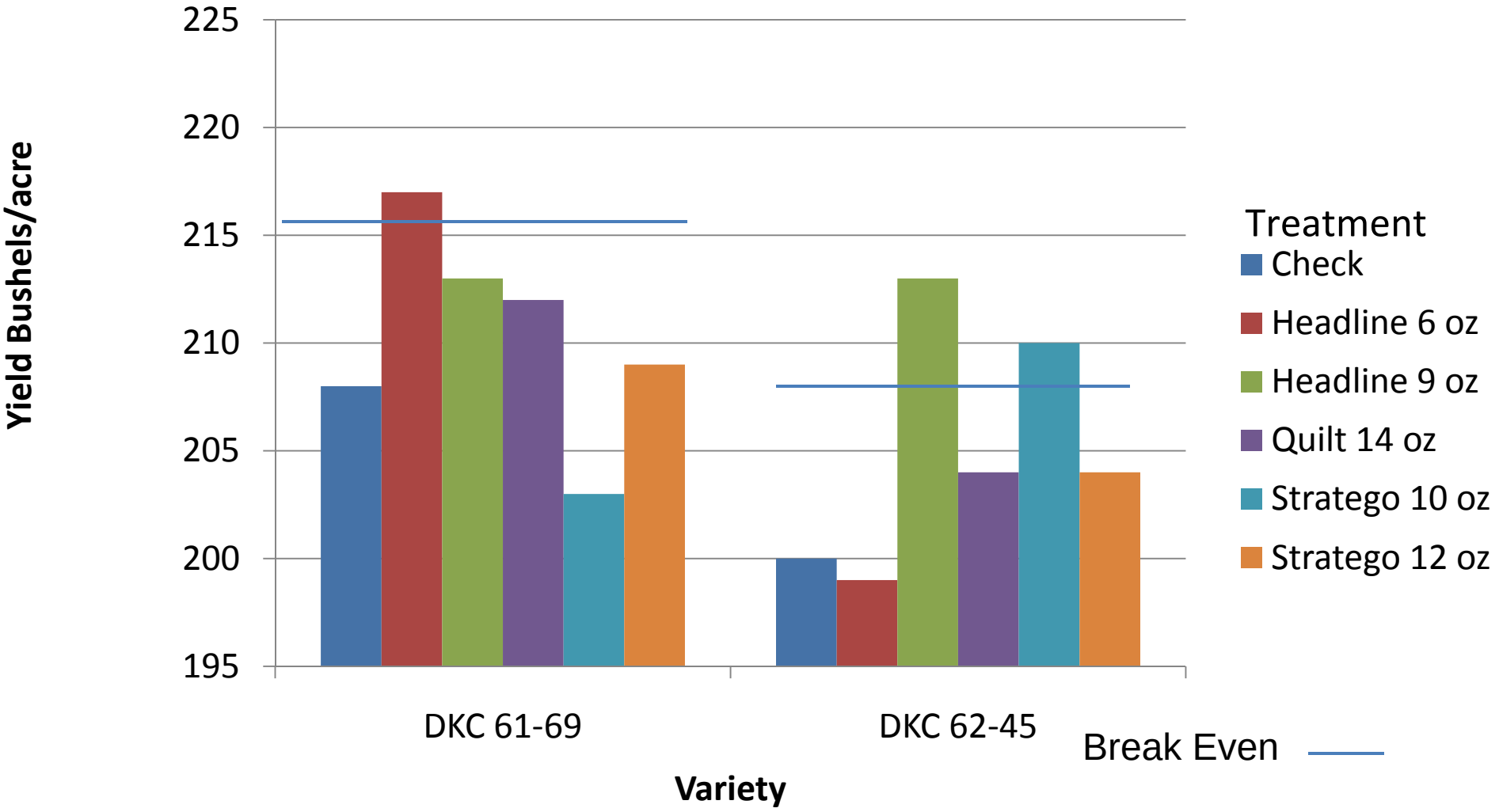
Kane County Corn Growers Corn Fungicide Study 2009
First Year Corn



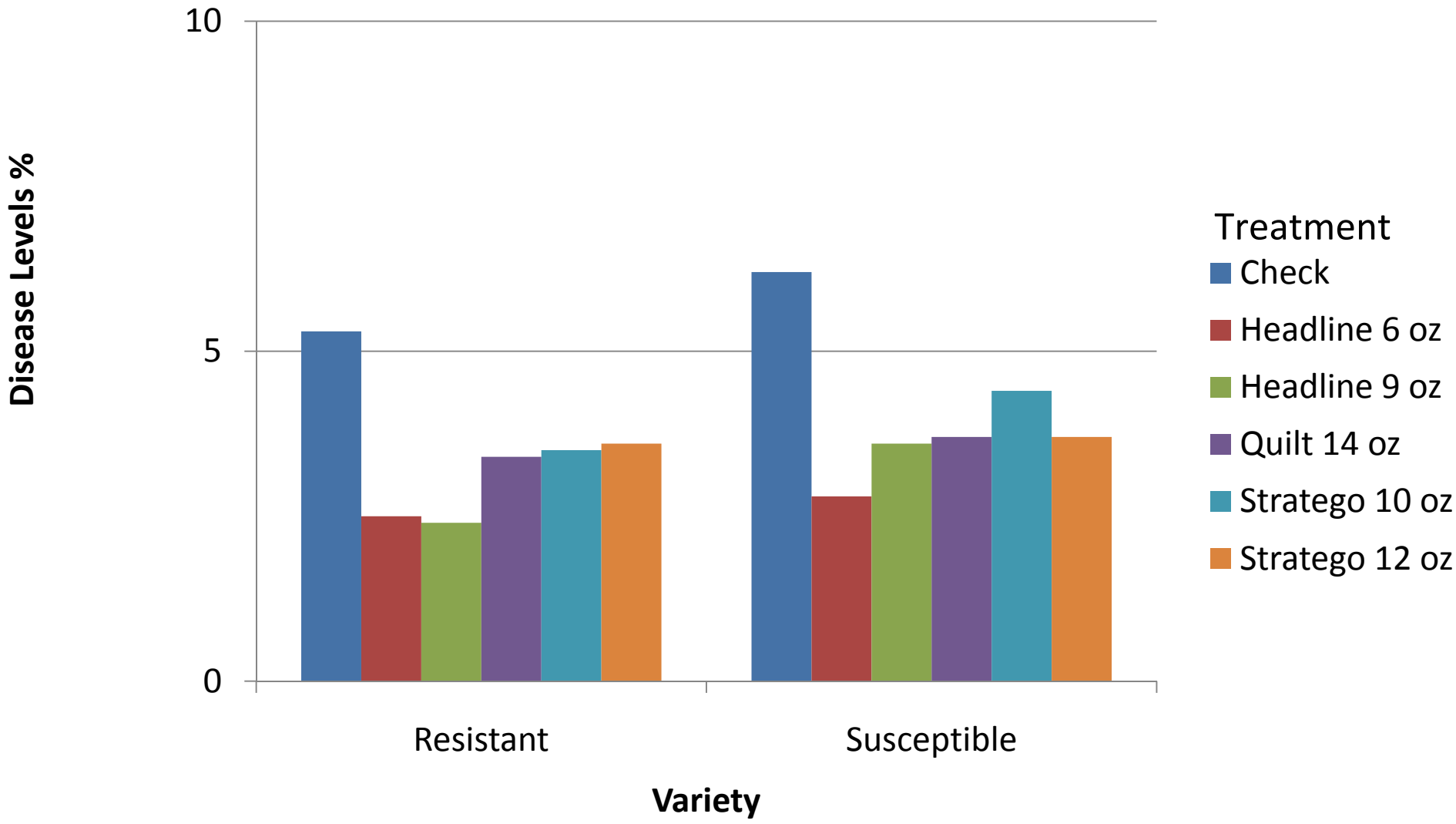
Kane County Corn Growers Corn Fungicide Study 2009
Second Year Corn



Kane County Corn Growers Corn Fungicide Study 2009
NIARC Site first Year Corn



Kane County Corn Growers Corn Fungicide Study 2008-09
Summary data



Kane County Corn Growers Corn Fungicide Study 2008-09
Summary data