Hooded Atlas Barley studies indicate development of hooded barley competitive with awned doubtful

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These trials were designated as 1-55, 2-55, 3-55 and 4-55. One plot was not carried through to completion. The following year, three field plot locations were selected for further trials. Only one of these was completed and designated as 1-56.

In Trial 1-55, the soil type was Ripperdan fine sandy loam, where the previous two crops were cotton. Severe leaf scorch became evident several weeks before harvest on the check plots. Later, leaf scorch became severe on the plots receiving the lower rates of potash.

Trial 2-55 was on the same soil type as 1-55, with previous crops of potatoes and barley. Deficiency symptoms developed at the same time and under the same circumstances as in 1-55.

Trial 3-55 was on a Grangeville fine sandy loam that had a history of potato production in three of the previous four years. The soil potassium level was low, and the leaf potassium reached a low level comparable to Trials 1-55 and 2-55. In contrast to the two trials on Ripperdan soil, the response to potash was not significant in Trial 3-55. The expected response to potassium was not obtained, probably due to soil conditions peculiar to the location, or factors more limiting to production than the level of potassium.

The soil type in Trial 4-55 was Ripperdan-Dinuba fine sandy loam located on the westerly edge of the Ripperdan soil area. The addition of potash raised the potassium leaf content in the treated plots, but there was no increase in yield. The soil content was in the mid-high range and no potassium deficiency leaf symptoms were observed.

In Trial 1-56, the soil type was Ripperdan fine sandy loam, centrally located in the Ripperdan soil area. Soil tests indicated a level of 57 ppm replaceable potassium. Severe leaf scorching was observed in the check and low potash plots prior to harvest. Although there were marked responses to potash at this location, the nitrate-nitrogen leaf levels reached the low range in all plots early in the season. High nitrogen requirement has been met, there is a good possibility that yields realized would have been higher.

In these trials, differences between broadcast and side-dress fertilizer treatments were not significant. A rate of 200 pounds potassium oxide per acre appeared to be the best rate under the conditions of the trials. Leaf analysis suggested, however, that the optimum level of potassium in the plant was not being maintained from mid-season to harvest in the low potash areas, even where 400 pounds potassium oxide per acre was applied.

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