Yield advantage analysis and competition on barley-wheat intercropping in the central highlands of Eritrea

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ABSTRACT
Four barley (Hordeum vulgare) and four wheat (Triticum aestivum) cultivars were each grown in sole cropping and in intercropping at Halhale Research Station under rainfed conditions in the central highlands of Eritrea during 1997 and 1998. The aims were to identify component crops with good competitive ability and high yield advantage and to maximize complementarity. Differences in plant height and maturity between component crops improved overall use of resources over time suggesting that the crops fulfilled their major demands at different times and thus became complementary to each other. Varietal combinations showed a yield advantage up to 122% compared to the sole crops. Relative total yield values were mostly higher than unity, proving that intercropping system of barley and wheat was more efficient in fully utilising soil and light resources than the sole cropping.

Key words: Growth, Yield advantage, Aggressivity, Intercropping.