

Two varieties of potato were grown and their yields related to leaf area duration (LAD) and net assimilation ratio (NAR). Kerrs Pink Yielded 25.1 t/ha of tubers with a maturation period of 10.5 weeks while Anett matured in 14.6 weeks and yielded 14.5 t/ha of tubers. The higher yield of Kerrs Pink in spite of shorter duration was due to a larger leaf area developed quickly in the life cycle. Its LAD was $4171 \text{ cm}^2\text{wk}^{-1}$ compared with $2531 \text{ cm}^2\text{wk}^{-1}$ for Anett.

The importance of quantifying environmental factors as they relate to ecological suitability for potato growing is discussed with particular reference to soil moisture and temperature.