

J.P.A. ANGSEESING AND M.A. SAUNDERS

SAINT PAUL'S COLLEGE, CHELTENHAM GL50 4AZ, ENGLAND

The effect of the 1976 drought on some English Lotus corniculatus populations

The first eight months of 1976 were much drier than usual in England, the total rainfall in Cheltenham being only 241 mm as compared with an average of 448 mm for the corresponding period in the preceding ten years (unpublished data of Cheltenham Parks Department).

Beginning in 1975 we have studied L. corniculatus populations with respect to the cyanogenesis polymorphism. Most of our populations seem not to have been greatly affected by the 1976 summer, but an exception occurs in a disused railway cutting at Notgrove, eight miles from Cheltenham.

The railway cutting runs east-west and the two sides of the cutting were separately scored exhaustively for L. corniculatus in 1975 and again in 1977. By 1977 there were very few plants left on the northern slope (south aspect) and a diminished number on the southern slope; the cyanogenesis frequency was, however, not significantly changed (Table I) ($2 \times 2 \chi^2_1 = 1.4, p < 0.05$).

Table I. Frequency of cyanogenics and numbers of plants (in brackets) in 1975 and 1977 at Notgrove railway cutting

	South aspect	North aspect
1975	48.4% (207)	57.1% (254)
1977	* (5)	47.4% (57)

* = insufficient plants

This contrasts with some Trifolium repens populations we scored at Robin's Wood Hill where the 1976 summer was followed by a change in cyanogenesis frequencies as well as a diminished number of plants.