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Glucosinolate Levels in 1988

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NIAB is responsible for assessing the performance of spring and winter oilseed rape varieties, grown at different centres throughout the UK. In previous years, we have reported considerable variability in the glucosinolate content of the seed harvested from different sites within this trial series. Typically, anything up to a three-fold variation in the glucosinolate content of a given variety was observed. All these analyses were carried out using a glucose release method and it has been suggested that deficiencies in the method itself could be largely responsible for the observed variability. For 1988, we have been able to conduct analyses using X-ray fluorescence spectrometry (XRF), a method which the UK has officially 'registered' with the EC as a rapid method and which has been successfully used elsewhere in the Community. The XRF instrument has been calibrated using standard samples supplied by the UK Intervention Board for Agricultural Produce.

The Table presents results from NIAB trials for the years 1986-1988. The mean values are shown, along with the highest and lowest value obtained for a variety. Only a few analyses of single low varieties have been carried out this year. These results have indicated that glucosinolate levels in single lows are higher than in 1987 (acknowledged as being a 'low' year). For example, we have seen Bienvenu samples with contents of around 70 umoles. Clear evidence for the variability in the glucosinolate content of varieties between sites has again been obtained. It is concluded therefore that the environmental interaction observed is real and not an artefact of the methodology. Furthermore, this has considerable significance to farmers in their attempts to meet EC-standards.

Table. Glucosinolate Levels in Varieties from NIAB-Trials.

	1986		1987		1988	
	Mean (5)*	Range	Mean (17)*	Range	Mean (6)*	Range
Bienvenu	47,7	38-55	38,4	18-59	-	
Rafal	59,1	39-80	49,9	19-78	-	
Ariana	25,0	17-30	19,0	12-30	21,3	17-26
Libravo	22,6**	16-32	17,2	12-34	17,5	11-22
Cobra	18,8	13-26	15,9	9-27	14,7	11-18

All values are in fmoles per g of seed at 9%-moisture.

* ( ) = number of trials analysed.
** - only four results.