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Oligosaccharides present in twelve varieties of Vigna spp. (radiata, unguiculata and mungo) and Glycine max were extracted in 80:20 methanol:water (after dehulling and defatting), deionized and converted to trimethyl silyl (TMS) derivatives and quantified by GLC techniques as described. The main peaks of the chromatogram were identified as glucose, galactose, sucrose, raffinose and stachyose. Myoinositol was used as an internal standard.

Flatulence causing oligosaccharides were present in all varieties while V. radiata had a high percentage of stachyose compared to other sugars in the legume. V. mungo and G. max had the highest percentage of raffinose and sucrose respectively compared to other legumes.

The variations in percentage total sugar content were as follows: V. radiata: 4.4 to 6.2; V. unguiculata 6.7 to 11.3; V. mungo 6.1 and G. max 11.3 to 14.2 as determined by Phenol-Sulphuric acid method.

References

1. Aman, P. (1979) Carbohydrates in raw and germinated seeds from mungbean and chickpea. J. Sci. Fd. Agric. 30 869-875.
2. Dubois, M. et al (1956) Colorimetric method for determination of sugars and related substances. Anal. Chem. 28 350.