

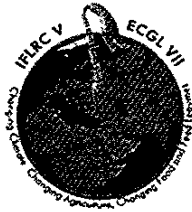
SESSION 5 – PLATFORM PRESENTATION 14

Variability of Oil, Protein, Total Soluble Sugars (TSS), Iron (Fe), and Zinc (Zn) Contents in ICRISAT-Bred Elite Groundnut (*Arachis hypogaea* L.) Lines

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ICRISAT has been breeding groundnut varieties for several traits including yield, confectionery traits, earliness and tolerance to biotic and abiotic stresses. Except for monitoring oil and protein content, nutritional quality parameters were not seriously considered. The situation is similar in many national programs in Asia and Africa. In this study, we report on the range of variability for kernel traits such as oil, protein, TSS, Fe, and Zn present in a set composed of 31 elite ICRISAT lines and 8 popular checks. The average oil content among the elite lines was 50% while among the checks it was 48%. Elite line ICGV 06420 yielded ~58% oil, out-yielding the best check by 12%. Similarly, the elite lines on average yielded 15% higher protein than the checks; elite line ICGV 86015 yielded ~27% protein, about 17% higher than the best check. For the three other traits, TSS, Fe and Zn, the checks on average out-yielded the elite lines. The checks, TMV 2 and X-14-4-B-19-B, yielded the highest TSS (9.6%) and Zn content (62 ppm), respectively. The elite line with the highest Fe content (ICGV 86143, 50.1 ppm) was marginally better than the best check. From the above observations, it is evident that elite lines superior to existing checks are available for oil and protein content but not for TSS, Fe and Zn contents. Thus, there is a need to include these objectives in breeding programs to enhance the nutritive value of groundnut, particularly for malnourished populations in developing countries. Further studies are being conducted on this topic.

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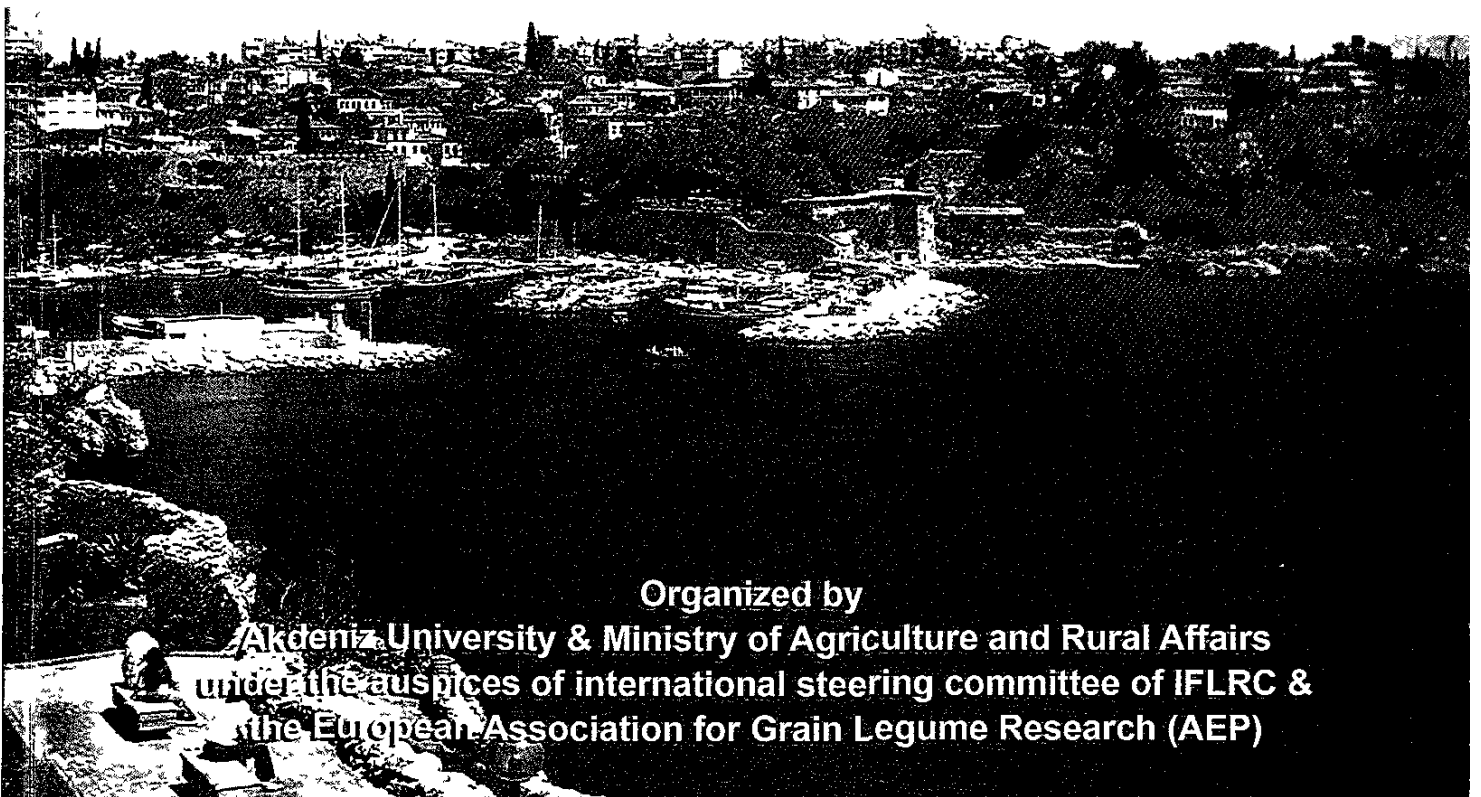
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BOOK OF ABSTRACTS



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