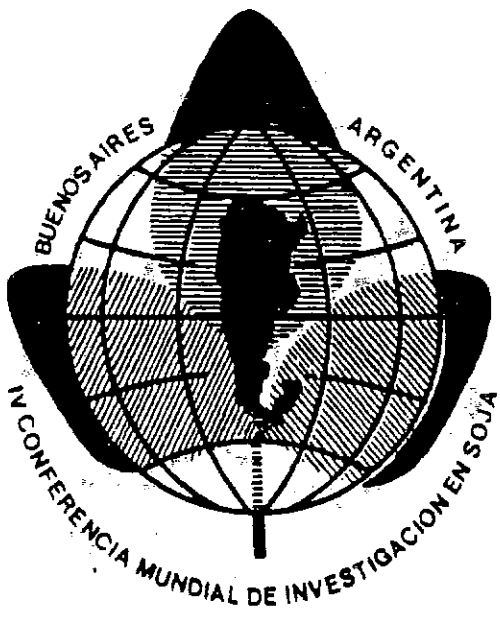
REPORT ON

WORLD SOYBEAN RESEARCH

CONFERENCE IV



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GRAIN CROPS RESEARCH INSTITUTE

POTCHEFSTROOM

DEPARTMENT OF AGRICULTURE AND WATER SUPPLY

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REPORT ON

WORLD SOYBEAN RESEARCH CONFERENCE IV

5-9 March 1989

and visits to

research centres in Brazil and Argentina

by

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2. GENERAL

The purpose of the world soybean research conference is to promote interchange of scientific information on all aspects of soybean research. It is a statutory organization with an approved constitution and membership by means of a registration fee. Membership is open to any person interested in soybean research in any country in the world. It is held at approximately five year intervals to consider:

a) research progress since the previous conference,
b) the current status of research and,
c) opportunities for progress in the future.

The 1989 event was held at the Sheraton Hotel, Buenos Aires, Argentina. A total of 761 members participated in the conference and 477 presentations were made by participants from 48 different countries. The conference lasted four days from the 5th to 9th March 1989 and was followed by an optional technical tour to the main soybean producing area of Argentina.

In this report an attempt is made to summarize general impressions and to highlight those reports which may have particular significance with regard to the soybean programme in South Africa. Because of the size of the conference, participants had to chose between six simultaneous sessions. It was not possible to attend all presentations of interest, and this report therefore mainly deals with those sessions which the author attended.

CONCLUSIONS

The capability of soybeans to take advantage of favourable conditions at a relatively late stage in the growing season is evident in this study. Removing plant competition at the time of flowering resulted in a significant increase in pod number. When plant competition was removed at the beginning of pod-fill the remaining plants responded both in terms of a significant increase in pod number and in seed growth rate. This response was observed over the total plant and not only in the levels usually shaded under dense canopy cover.

Even if genetic differences for SGR do exist is it clear from these results that environment also exerts a major influence. Should environmental conditions at the time of flowering set the limits for certain yield components, indications are that these limits can not be demonstrated by means of increased source resulting from decreased plant competition. The potential growth for each seed does not appear to be closely related to the source to sink ratio at the time of flowering.

It is suggested that soybean seed yield is less dependent on sink potential than on the plant's ability to maintain source productivity during the reproductive growth phase. Factors limiting sink potential, however, need further attention. A significant increase in pod number following thinning during the reproductive period supports the notion that fruit set in the lower canopy may be limited by light quality.

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