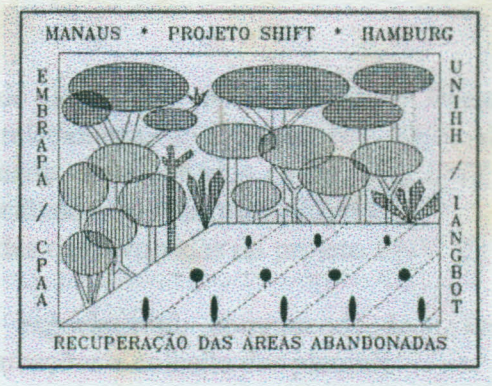

RECUPERAÇÃO DE ÁREAS DEGRADADAS E ABANDONADAS, ATRAVÉS DE SISTEMAS DE POLICULTIVO

PERÍODO: Janeiro a Dezembro/1997

Embrapa/CPAA - Universidade de Hamburg

Editores:

Luadir Gasparotto & Götz Schroth

Manaus-AM
Maio/1998

PRODUCTION OF ANNATO (Bixa orellana L.) IN AN AGROFORESTRY SYSTEM

Adelaide M. Mota
Jeferson Luis V. de Macêdo
Cássia Regina A. Moraes
Raunira C. Araújo

1. INTRODUCTION

The state Pará is the most important producer of annato seeds in the northern region of Brazil (Falesi & Kato, 1992). In 1990 the average production of annato seeds in Pará was about 1045 kg per hectare of monoculture areas. Thus, annato is considered a comercially promissing crop plant, also suitable for the recultivation of abandoned areas.

In 1993, annato has been planted as part of an agroforestry system on a fallowed rubber plantation (SHIFT experimental site, CPAA/Embrapa-Manaus).

2. OBJECTIVE

The objective of the study is to evaluate the productivity of annato in a agroforestry system which has been treated in four different manners: a) 100 % and 30 % of recommended fertilization; b) with and without inoculation of the seedlings with mycorrhizal fungi of the genus *Glomus*.

3. SHIFT EXPERIMENTAL AREA

The soil of the experimental site is a clay yellow Latossol (oxissol), characterized by high acidity and a high level of exchangable aluminium. The experimental field is located at the north of Manaus, at 3° 8' 5" Southern latitude and 60° 1' Western longitude. According to the Köppen classification the climate is to be characterized as AF (Rainy Tropical Climate) with an average of pluviometric precipitation of 2606.2 mm/a.a, an average of relative humidity of 86.7% and an average of air temperature of 26.7° C.

The agricultural system consists of annato, cupuaçu (*Theobroma grandiflorum*), Brazilian nuts (*Bertholletia excelsa*) and peach palm (*Bactris gasipaes*) with a spacing of 4 x

4 m, all in all 156 plants per hectare. The experiment is conducted in randomized blocks with four treatments and five repetitions.

Seedlings were utilized after they had been inoculated in the nursery with mycorrizhal fungi or not.

From 1994 until 1996, has been evaluated by means of the dry weight of the seeds. The analysis of variance and the Tukey test have been conducted by the aid of the SAS program.

4. RESULTS

The production data, presented in the Figure 1, demonstrate that the productivity of dry seeds (kg/ha) increases from 52% to 73% with 100% of recommended fertilization. No significant effect of mycorrizhal inoculation could be observed in any treatment variant.

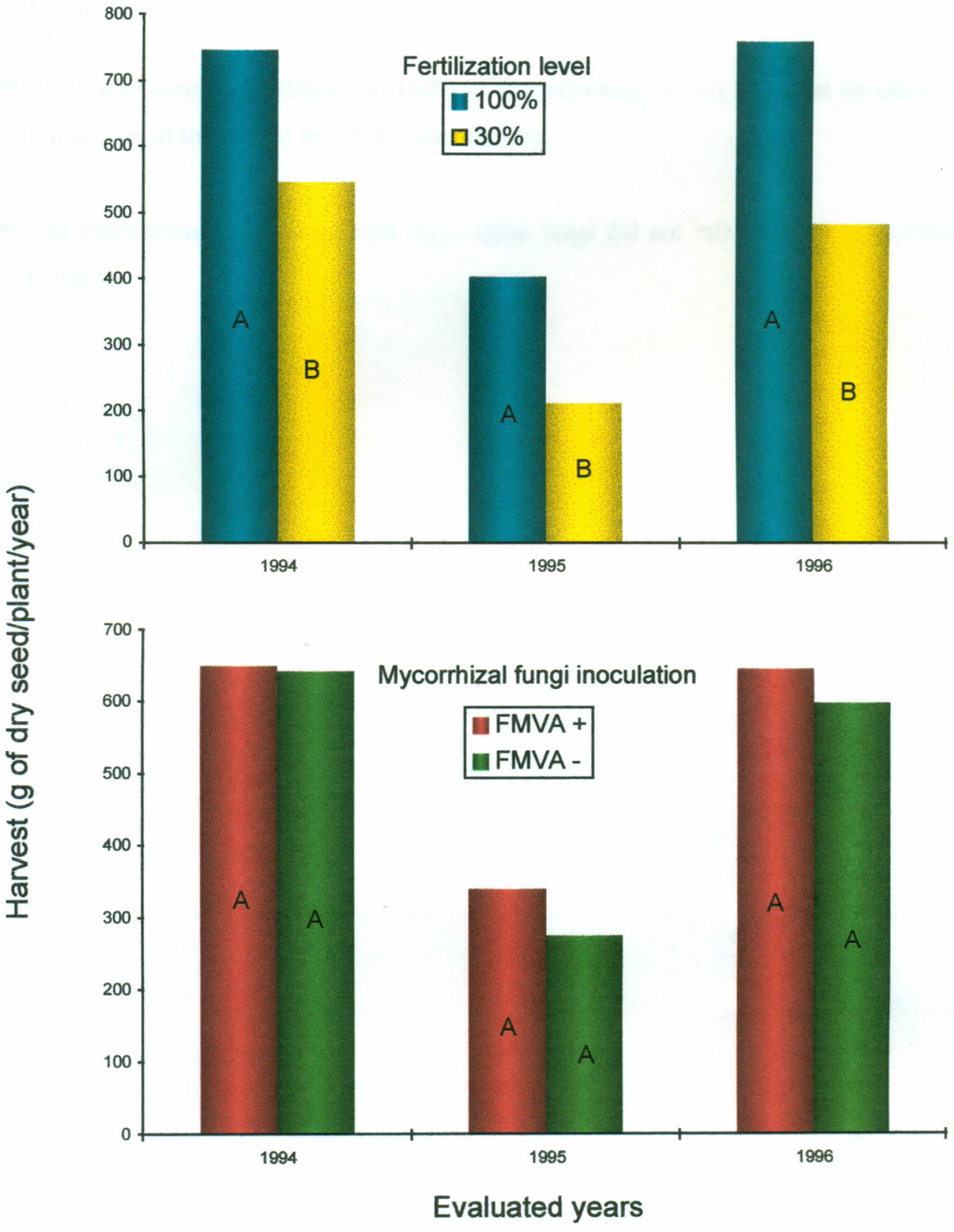

FIGURE 1. Production of urucum in an agroforestry system treated with two fertilization level (30 and 100 %) and mycorrhizal fungi inoculation [presence (+) and absence (-)].

6. CONCLUSIONS

- The use of complete fertilization (100% of the recommendation) increased significantly the production of the annato in agroforestry systems;

- The inoculation of seedlings with mycorrizhal fungi did not influence the productivity of annato.