

stems of 10 different plants and repeated a second time. Each time 2 ml was injected. Observations were made on the mother plant and the second peeper at the time of the first injection and 6 weeks after the second injection.

Flurenol treated plants did not show faster sucker development nor higher peeper production. Differences in the main pseudostem after 6 weeks are probably due to the selected plants in the beginning of the experiment. Thus, to counteract the apical dominance, repeated injections seem to be necessary to maintain the change in hormone balance. Decapitated plants gave bigger suckers (maiden suckers) as the control of Flurenol treated plants (peepers). Release from apical dominance was not stimulating higher peeper-number which suggests that the maiden suckers are dominating.

### Effect of fertilizer and mulch

Plantain in backyards are growing under optimal conditions because of high level of nutrients, as well as organic matter (Table 54.) In this experiment, the nutritional requirements of 2 varieties of plantain (medium and giant False Horn) were compared with that of a banana (Kparanta). It is clear that in all cases fertilizer had strong positive effects on growth, whereas the effects of mulch appeared less pronounced. The combination of mulch and fertilizer showed positive interaction.

**Table 54. Height and girth of a medium and a giant False Horn plantain and a banana after 5.5 months.**

Treatments	Height (cm)	Girth (cm) at 50 cm height
<b>False Horn giant plantain</b>		
No mulch, no fertilizer	85.61 ab*	21.31 abc
No mulch, fertilizer	133.45 ab	31.14 abcd
Mulch, no fertilizer	119.14 ab	27.69 abc
Mulch and fertilizer	181.18 bc	42.92 cd
<b>False Horn medium plantain</b>		
No mulch, no fertilizer	56.92 a	15.91 a
No mulch, fertilizer	116.04 ab	27.30 abc
Mulch, no fertilizer	123.09 ab	29.39 abcd
Mulch and fertilizer	181.15 bc	40.96 bcd
<b>Banana</b>		
No mulch, no fertilizer	94.20 ab	22.94 abc
No mulch, but fertilizer	188.11 bc	38.78 abcd
Mulch, no fertilizer	153.17 abc	31.64 abcd
Mulch and fertilizer	266.95 c	53.14 d

\*Means in the same column opposite the same letter(s) are not significantly different from each other at 5% levels. Mulch consisted mainly of *Eupatorium*.

### Eastern Cameroon Farming Systems Project

As part of the effort to develop the Eastern province of Cameroon in cooperation with Zapi-Est (Zone d'Actions Prioritaires Integrees de l'Est), the World Bank asked IITA to assist the then Cameroon National Office of Scientific and Technical Research in establishing a food crop research station in that province. One of the re-

sponsibilities of IITA is to conduct an agronomic survey of existing farming systems to determine research priorities for the regional food crop research.

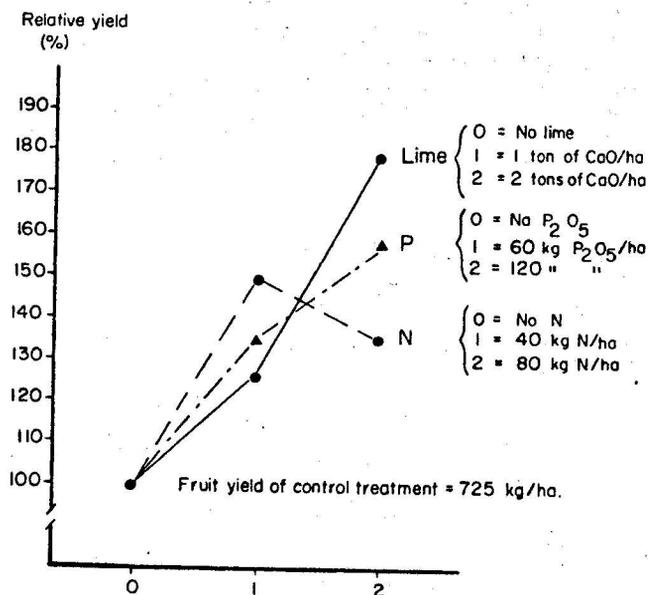
**Agroeconomic surveys.** The agroeconomic survey was conducted with the following objectives: (1) to investigate and analyze existing farming systems, (2) to gather information on existing patterns of agricultural production and resource use, (3) to identify major constraints, and (4) to collect relevant information on marketing and output supplies. A report titled, "Survey of food crop farming systems in the Zapi-Est, East Cameroon," was published.

**Field trials.** The field trials on varietal improvement, cultural practices and fertilization were initiated in 1980 at Bertoua in the savanna zone and at Doume in the forest zone. The varietal improvement was carried out with maize, groundnut, soybean, cowpea and upland and lowland rice. Grain yield of selected maize varieties was 3 to 4 times that of the local variety; TZB was the top yielder with 6.1 t/ha. Streak is a major problem for maize production in the area.

Among the groundnut varieties tested, Bertoua Blanche gave the highest yield of 2.1 t/ha. Soybeans performed well in the area and yields ranged from 0.6 to 1.9 t/ha. The top yielder was variety 20-67 TB. Though cowpeas showed good growth, leaf diseases and insect damage were commonly observed after flowering. Grain yields varied from 0.2 to 1.4 t/ha with TVx 1948-OIE giving the highest yield. High yields of lowland rice were obtained with variety IM 16 giving the highest yield of 7.0 t/ha.

On newly cleared land at Bertoua, grain yield of maize variety Ekona Mixed Color responded significantly to N and P applications at rates of 60 kg N/ha and 40 kg P<sub>2</sub>O<sub>5</sub>/ha. Positive N x P interactions were also observed. Regardless of level of fertilizer application, maize yield increased significantly as the plant density increased from 33,000 to 66,000 plants/ha.

Field trials with groundnuts showed significant responses to application of lime, N and P (Fig. 51). N appli-



**Fig. 51. Response of groundnut (CV Bertoua Blanche) to N, P and lime applications.**