

## **EFFECT OF THE TIME OF INTRODUCTION OF COMPONENT CROPS AND OF FERTILIZER-N APPLICATION ON MAIZE AND VEGETABLE COWPEA GROWN IN MIXTURES UNDER THE HUMID TROPICAL CONDITIONS**

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### **ABSTRACT**

*Field experiments were carried out during 1998 and 1999 cropping seasons at Umudike, south eastern Nigeria, to evaluate the yield performance of maize intercropped with vegetable cowpea under different planting schedules. Treatments comprised vegetable cowpea planted 4 weeks before, same day as, 4 and 8 weeks after maize and nitrogen levels of 0, 50 and 100kgN/ha.*

*The results showed that plant height, leaf area index, dry matter and pod yields in vegetable cowpea as well as seed yield in maize decreased significantly following delay in the introduction of either crop in mixture. Usually the component crop that was planted earlier in the mixture gave a stiffer competition against the component that was planted later as demonstrated by growth and yield values. Cases of applied N increased growth and yields in the intercrops. On the average, planting vegetable cowpea at 4 weeks before, same day as, 4 and 8 weeks after maize gave yield advantages of 98, 93, 64 and 97% respectively, over sole cropping. The yield advantages due to intercropping at 0, 50 and 100kgN/ha were 131, 81 and 74% respectively. Planting the mixture the same day produced more satisfactory yields of the intercrops than other planting schedules while fertilizer use was optimized by applying 50kg N/ha.*

**Key words:** *Maize, Vegetable cowpea, Mixture, Time of introduction, Fertilizer N, Land equivalent ratio.*