I. SUMMARY

Some of the chemical, physical and microbiological properties of swamp soils affecting fertilization and growth of rice are dealt with in this paper.

Water-logging is associated with low redox potentials, reduction of nitrates, manganese, iron and sulphates, and increase in pH and exchangeable bases. Enzymic conversion of amino acids and fixation of atmospheric nitrogen by blue-green algae are active processes in the St. Augustine rice fields. Algal growth is found to be limited by phosphorus and calcium.

The intense fixation of phosphates in water-logged soils is dependent upon an increase of reduced iron.

Anaerobic decomposition of green manures result in greater iron reduction and gaseous evolution, and better physical condition of the soil upon draining.

Possible successful manurial policies for rice, paying due regards to soil conditions are discussed, and a fairly complete bibliography of the most up-to-date literature on the properties and problems of utilization of swamp soils, cultivation and amelioration of rice is given.