SUMMARY

I) A survey for stored grain insect pest was carried out in four districts of Lower Assam during the period from May 1976 to May 1978. Eleven insect pests infesting cereal and cereal products were detected, of which eight were of the order Coleoptera and three of the order Lepidoptera. The rice weevil, *S. oryzae* was found to be the most important insect pest of both rice and wheat. *C. cephalonica* was found to be the second in importance as a pest of rice, while it was *R. dominica* for wheat. *S. cerealella* was the only pest infesting paddy in Lower Assam. Incidence of the insect pests was observed to be much less during winter months than in summer months.

II) Laboratory experiments were performed to determine the comparative susceptibility of ten popular varieties of rice to the attack of rice weevil, *S. oryzae* and rice moth, *C. cephalonica*. For this, two criteria were adopted: (a) growth of insect population, and (b) loss in weight of rice. Of the ten varieties Monoharsali and Kolajoha came out to be the most susceptible, while TTB 4/7, Pussa 33 and Prasadbhog were the most resistant to the attack of the two pests. The autumn months of September, October and November were found to be the most congenial for the population build-up of *S. oryzae*, while the summer months of June, July and August were the most favourable for
C. cephalonica. The two pests were found to be most active during these two seasons as grain damaging insects, and least active during the winter months of December, January and February.

III) Laboratory experiments were performed under controlled conditions to study the effects of temperature and relative humidity on the population build-up of S. oryzae and C. cephalonica. It was found that the temperature of 29°C under the relative humidity of 75% was the most favourable condition for S. oryzae. It was also seen that S. oryzae could not develop below the temperature of about 15°C and started dying above the temperature of 38°C. The temperature of 32°C under R.H of 75% was found to be the most favourable for C. cephalonica, which did not develop below the temperature of 17°C and started dying above the temperature of 38°C.

IV) Studies on the comparative susceptibility of polished, unpolished and unhusked rice to the attack of S. oryzae, C. cephalonica and S. cerealella gave the following results:

S. oryzae did not infest unhusked rice, and preferred unpolished to polished rice. C. cephalonica did not damage unhusked rice and preferred polished to unpolished rice. S. cerealella did not attack polished rice and showed equal preference for unpolished and unhusked rice.
V) Laboratory tests on comparative population growth of *S. oryzae*, *C. cephalonica* and *T. castaneum* in wheat and wheat products gave the following results:

*S. oryzae* could build up its population only in wheat, and failed to produce its progeny in Atta, Maida and Suji. Both *C. cephalonica* and *T. castaneum* were found to prefer Atta and Suji to wheat and Maida for their population growth. For both the pests no significant difference at 5% probability level was observed between wheat and Maida in respect of their population build-up. But, while *C. cephalonica* preferred Atta to Suji, these two media were found to be equally favourable for population growth of *T. castaneum*.

VI) Laboratory studies were made on comparative population growth of *S. oryzae*, *R. dominica* and *T. castaneum* in rice and wheat. It was found that *S. oryzae* and *R. dominica* produced more progeny in wheat than in rice, while *T. castaneum* produced more progeny in rice than in wheat.

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