SECTION B

B-43 **STUDIES ON SOAKING OF WINGED BEAN** (*PSOPHOCARPUS TETRAGONOLOBUS*)

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Investigations were carried out on two cultivars of winged bean, to obtain a suitable soaking solution for easy removal of seed hulls and to find out a feasible method for the large scale preparation of winged bean flour.

Maximum swelling of winged bean seeds took place within 10–12 hours, after soaking at 28°C. The percentage water imbibed was 43 for SLS–40 and 64 for TPT–2. TPT–2 also showed a higher rehydration ratio. Soaking, swelling and dehulling properties were studied with various soaking solutions. Soaking in either 0.5 –1 % $NaHCO_3$ or Na_2CO_3 overnight followed by boiling for 45 minutes was found to be the suitable method for easy removal of hulls. The soaked solutions contained amino acids, reducing sugars, phenolic compounds and tannins.

Trypsin inhibitor studies showed that SLS–40 had more trypsin inhibitor activity than TPT–2. Soaking in 0.5% Na Cl solution overnight alone reduced about 40 % of the trypsin inhibitor activity. A mixture of 1 % $NaHCO_3$ and 1 % citric acid solution was suitable to soak large quantities of seeds. Soaking the seeds in the above solution overnight and boiling them for 45 minutes rendered the seed hulls very loose, but when they were oven dried and roasted, the loosened seed hulls adhered to the endosperm and made the separation of the hulls difficult when passed through a soya bean dehuller. Wet dehulling was found to be essential after soaking.