CONCLUSIONS

1. The various physico chemical characteristics of wheat stored in three different packaging materials for six months indicated that moisture, alcoholic acidity and fat acidity of wheat increased irrespective of the packaging materials used. However, there was no change in other physico-chemical characteristics of wheat on storage. There was no significant difference in any of the physico-chemical characteristics of wheat stored in three different packaging materials.

2. Odour analysis by E-Nose of samples of paddy, rice, wheat and sugar packaged in HDPE and PP woven sack has shown that

   i. Odour of packaged food changes on storage, but these changes are not caused by the packaging material.
   ii. Paddy, rice and sugar did not pickup any significant odour from the packaging films upto six months of storage under ambient condition.
   iii. At the end of six months of storage packaged wheat was found to have slight odour pick up from the packaging material.

3. The DNA fingerprinting by amplification of the housekeeping genes, glutenin and sucrose phosphate synthase of wheat and rice respectively indicate that no detectable changes occur during the storage. In addition the positive amplification of the 18S rDNA of wheat, paddy and rice also suggest that during storage no detectable changes have occured. The change in enzyme activities during storage was not significant.

4. The following classification of wheat has been suggested:

	Test No.
Very weak	Under 60
Weak	80 – 120
Medium strong	150 – 200
Strong	Above 250

5. Sedimentation value for different flours
   Soft wheat flour = less than 20 ml
   Medium strong wheat flour = 20 to 40 ml
   Hard wheat flour = more than 40 ml.

6. The global migration values for the samples tested with different food simulants under the specified test conditions of time and temperature are well below the specified maximum limits as per BIS specifications as shown in table

7. WVTR of unlined PP and HDPE woven sacks are high as that of jute. Breathability of PP and HDPE woven sacks are comparable to that of jute sacks. Higher value of coefficient of friction in PP woven sacks will help in stacking.