



**Figure 1.** An infected head of wheat showing the symptoms of Karnal bunt. Photographs are the courtesy of Department of Agriculture and Food, Western Australia.



**Figure 2.** Infected grains of wheat showing the symptoms of Karnal bunt. Photographs are the courtesy of Department of Agriculture and Food, Western Australia.

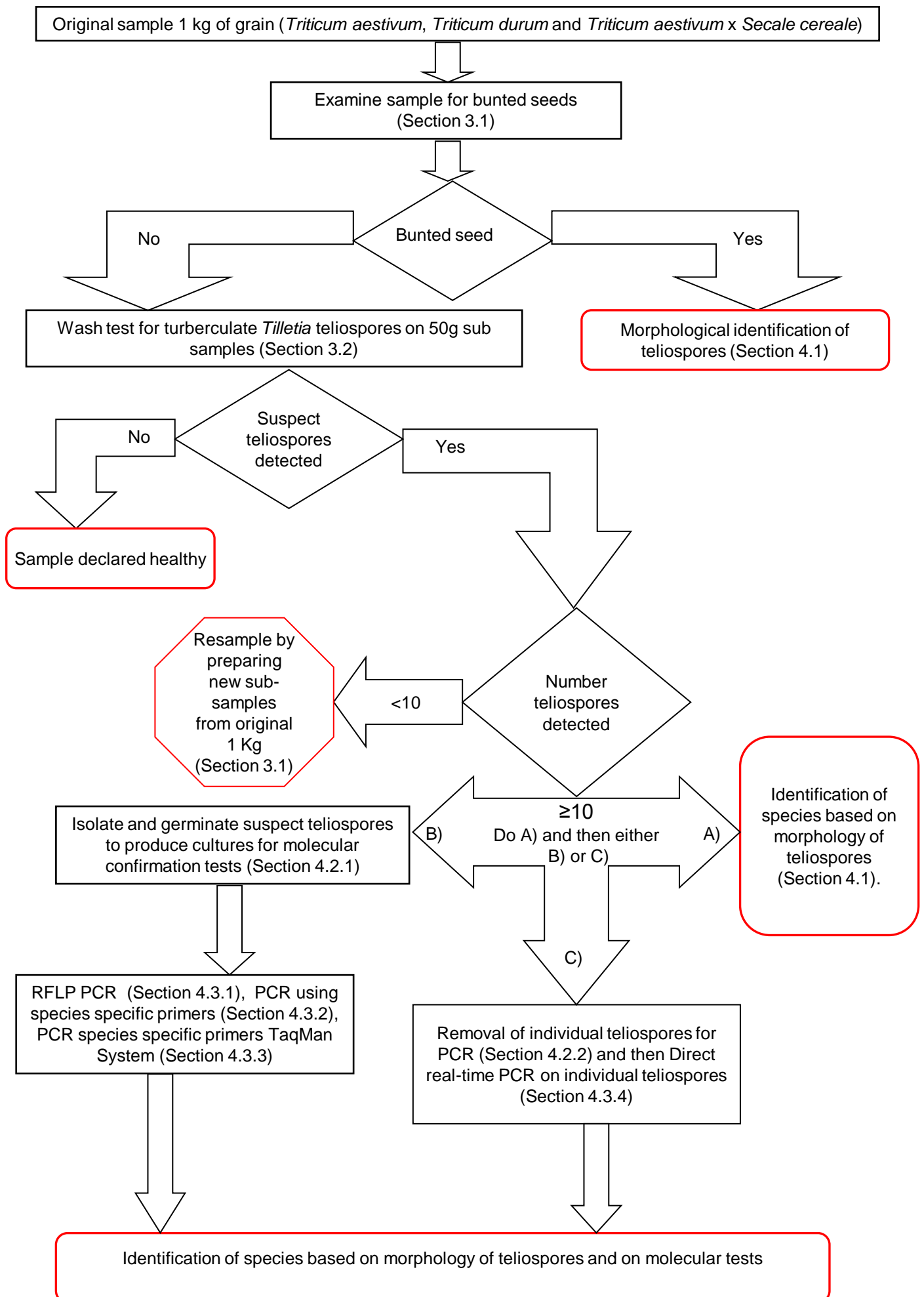
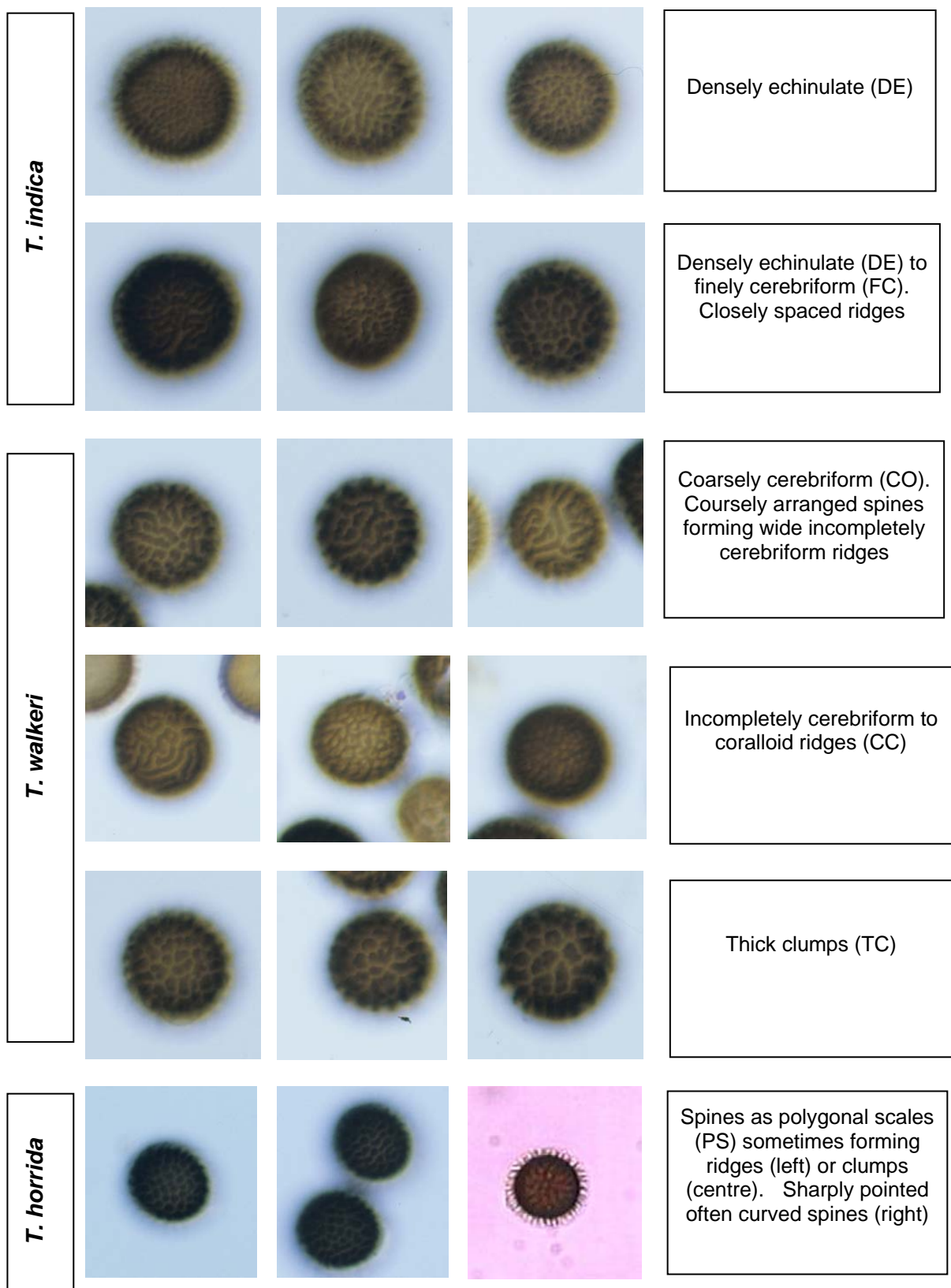
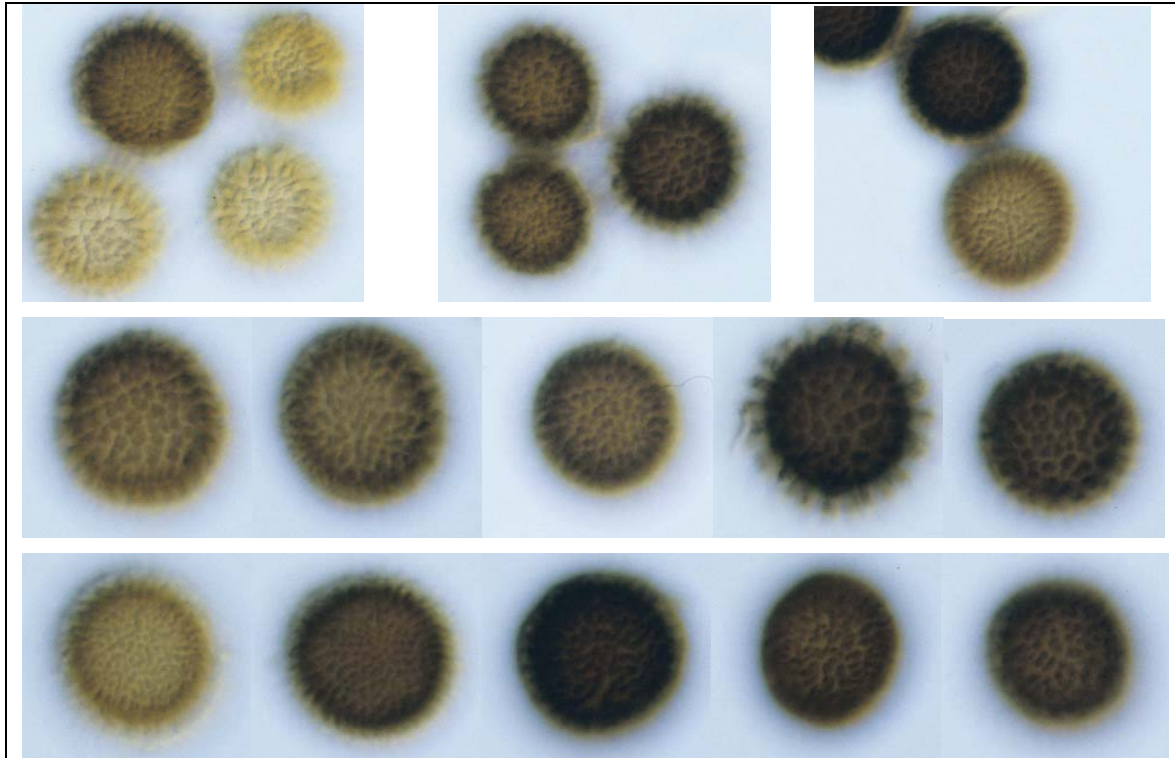


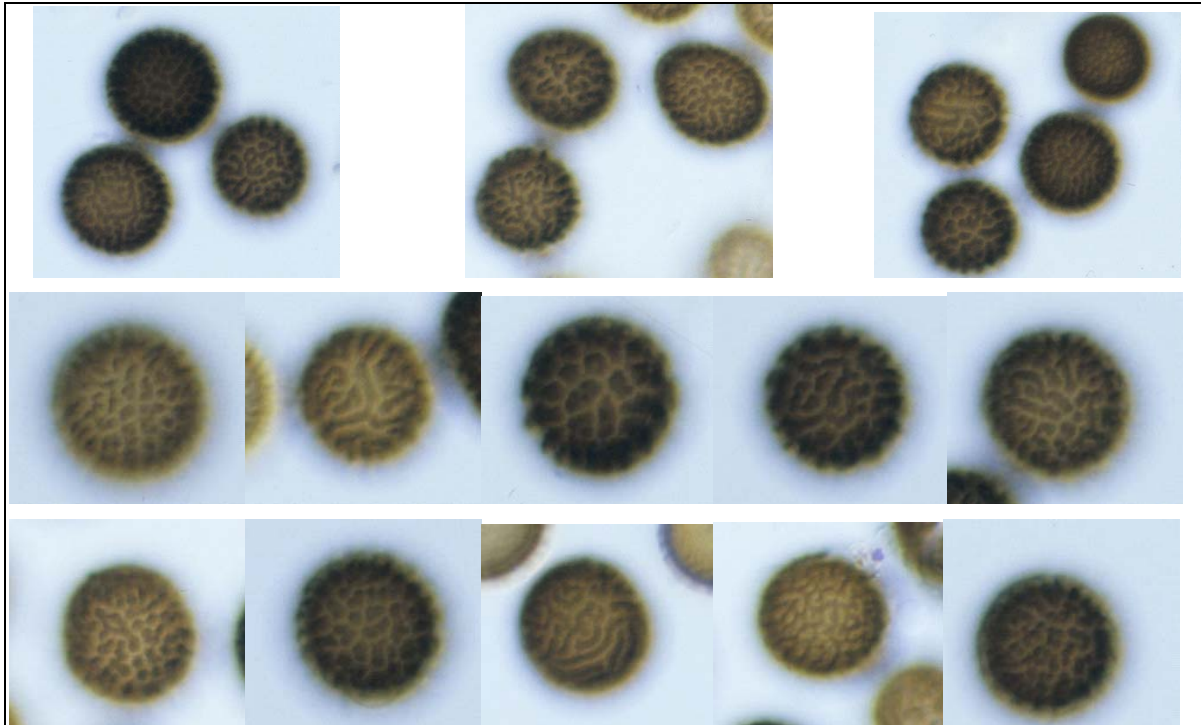
Figure 3. Flow diagram showing the process to be used for the detection and identification of *Tilletia indica* in grain samples.



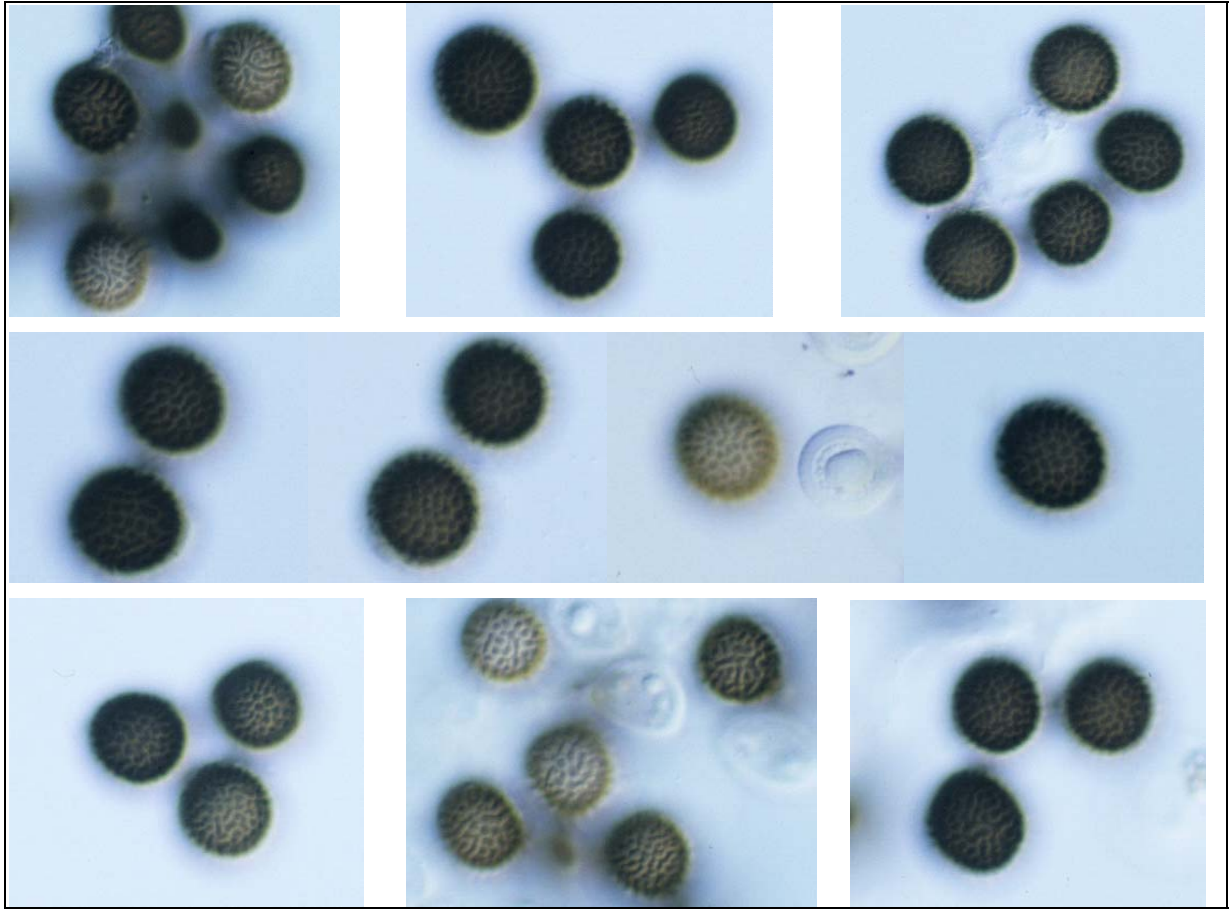
**Figure 4.** Pictorial key to teliospore ornamentation. Use in conjunction with Tables 2 and 3. Photographs courtesy of Dr. Alan Inman, Central Science Laboratory, York.



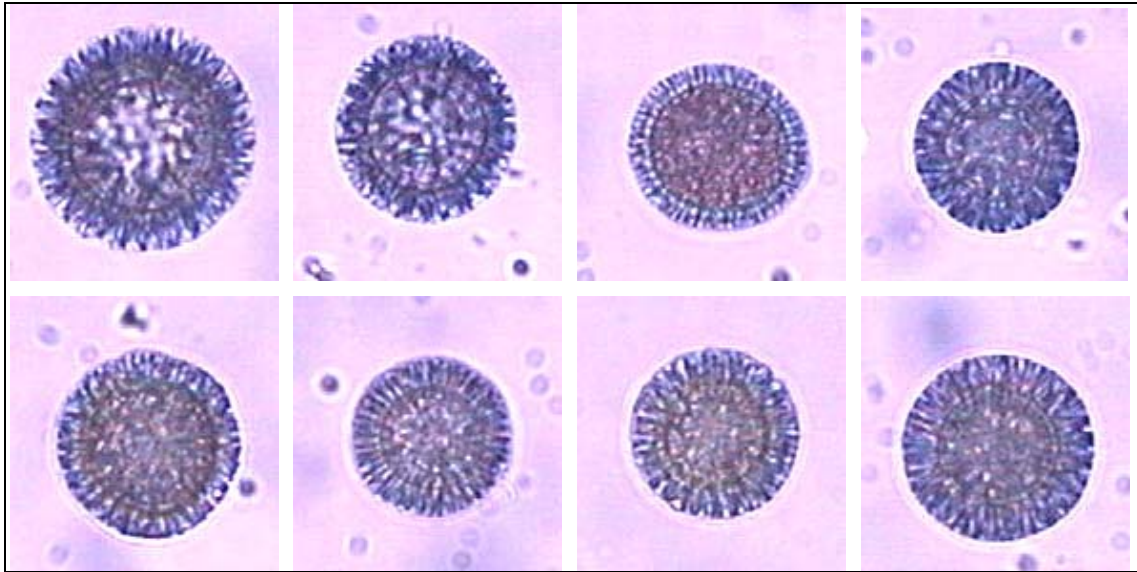
**Figure 5.** Teliospores of *Tilletia indica* showing surface ornamentation patterns. Spines are densely arranged, either individually (densely echinulate) or in closely spaced, narrow ridges (finely cerebriform). Scale: 10mm = 17  $\mu$ m. Photographs are the courtesy of Dr Alan Inman, Central Sciences Laboratory, York.



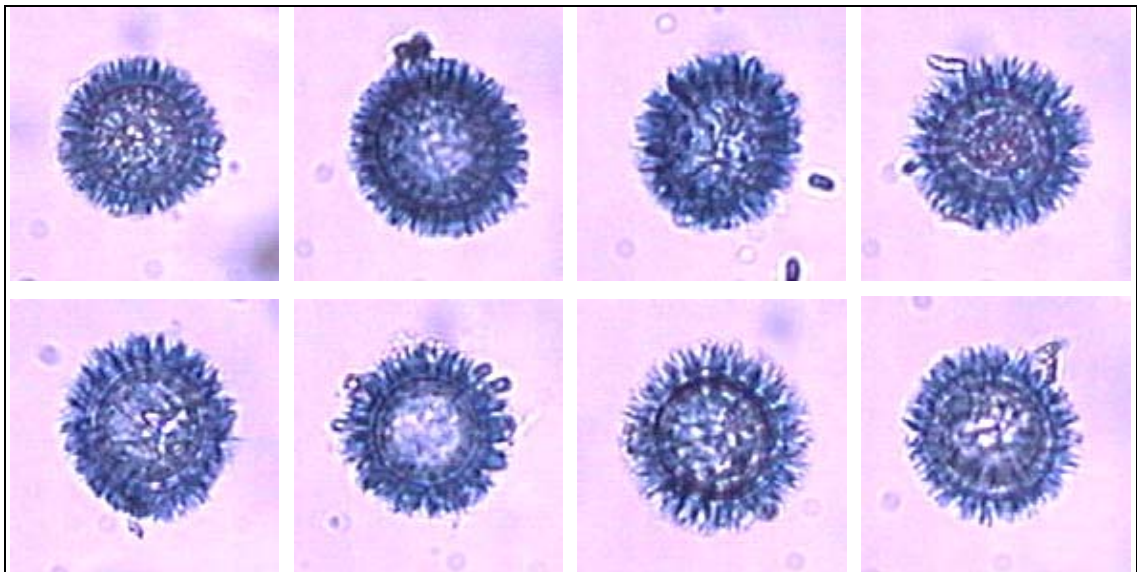
**Figure 6.** Teliospores of *Tilletia walkeri* showing surface ornamentation patterns. Spines are coarsely arranged and forming wide, incompletely cerebriform to coralloid ridges or thick clumps. Scale: 10mm = 17  $\mu$ m. Photographs are the courtesy of Dr Alan Inman, Central Sciences Laboratory, York.



**Figure 7.** Teliospores of *Tilletia horrida* showing surface ornamentation patterns. Polygonal scales or, occasionally, with cerebriform ridges. Scale: 10mm = 17  $\mu$ m. Photographs are the courtesy of Dr Alan Inman, Central Sciences Laboratory, York.

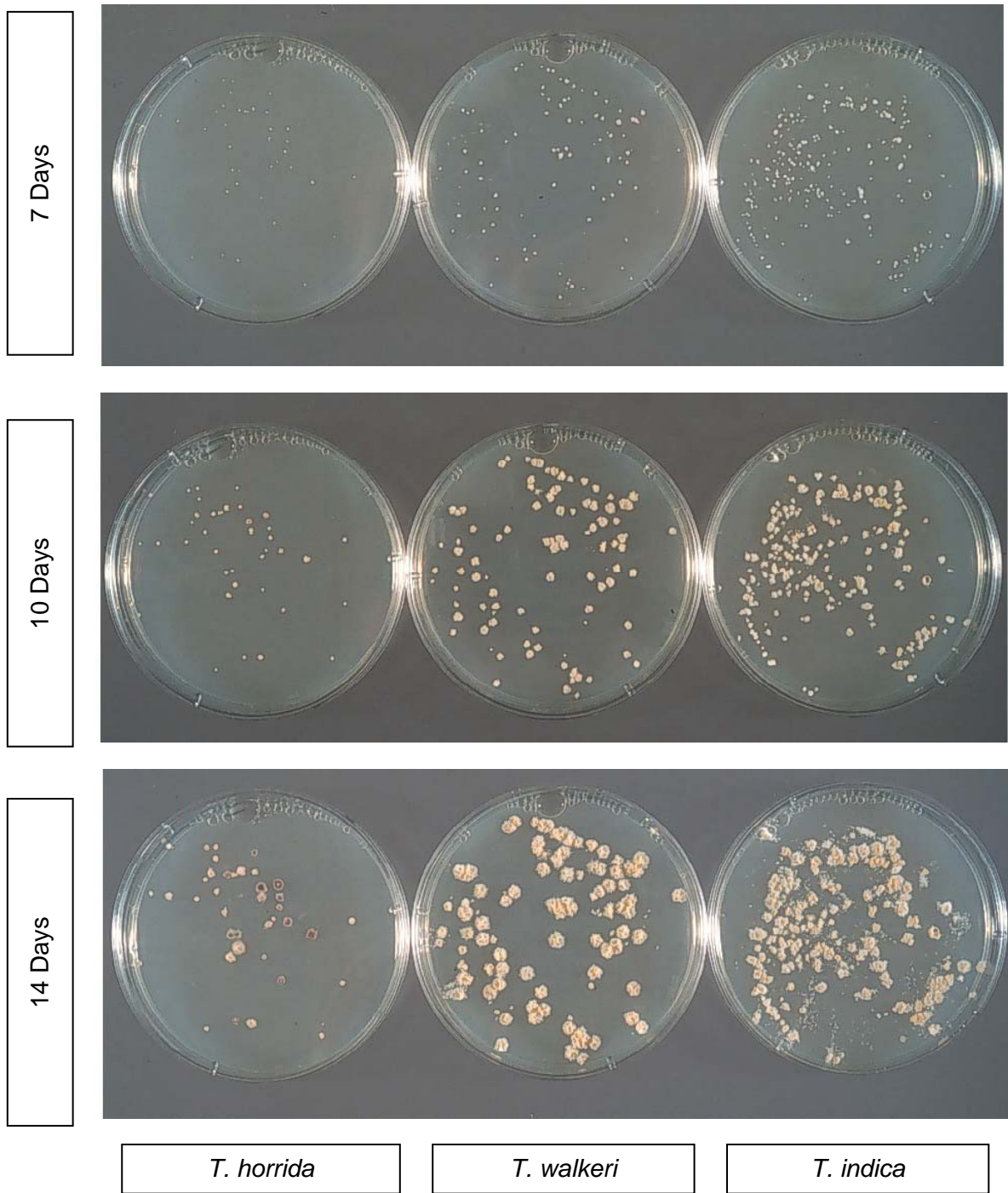


**A:** *Tilletia indica*



**B:** *Tilletia walkeri*

**Figure 8.** Teliospores of *Tilletia indica* (top) and *T. walkeri* (bottom) showing teliospore profiles in median view after bleaching and then staining with lactoglycerol-trypan blue. Note: The smoother outline on *T. indica* teliospores compared to the more irregular outline of *T. walkeri* teliospores with more obvious gaps between spines. Photos courtesy of Dr Alan Inman, Central Sciences Laboratory, York.



**Figure 9.** Colonies of *Tilletia indica* (right), *T. walkeri* (centre) and *T. horrida* (left) after 7 days (top), 10 days (centre) and 14 days (bottom) on PDA at 19°C and a 12 hour dark/light cycle. Note: slower growth, and purple pigmentation after 14 days, for *T. horrida* colonies. Photos courtesy of Dr. Alan Inman, Central Sciences Laboratory.