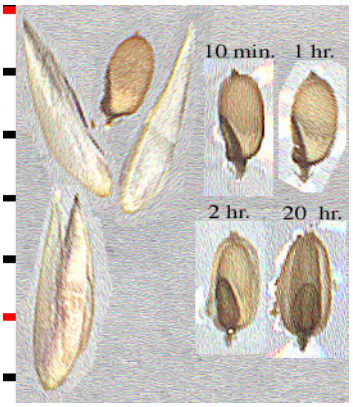
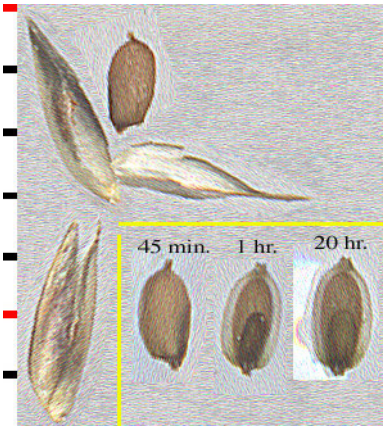
Appendix F. The Wet Grain Test with Older Specimens.

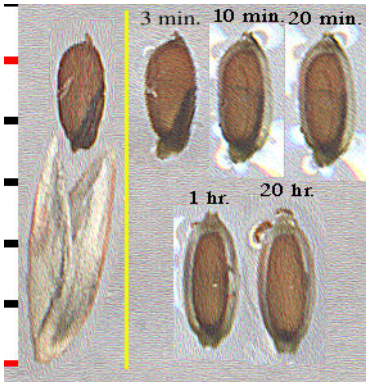
Swelling of the wetted pericarp for SPCOD3 and SPCOC2 diminishes with the age of the specimen. After 35 years it may no longer provide a reliable test for distinguishing SPCL from the SPCO complex..



R. W. Sanders 3908
SPCOD3



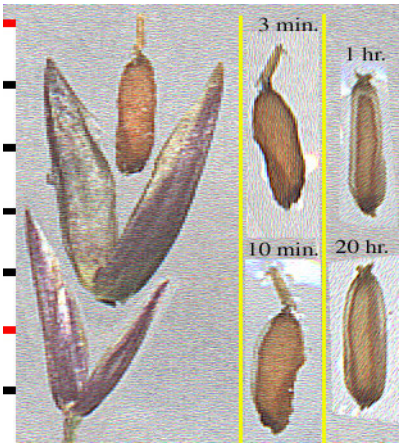
R. W. Sanders 3915
SPCOD3



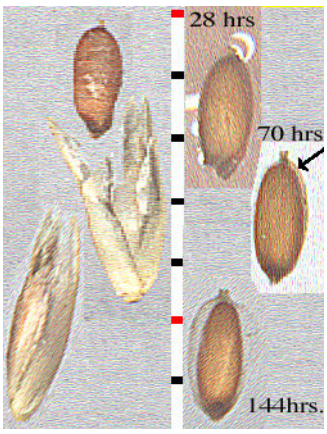
R. W. Sanders 3916
SPCOD3

The above SPCOD3 grains collected in 1995 and the SPCOC2 (1990) grain below clearly show the gelatinous transformation of the pericarp, although even after several days of immersion, the pericarp did not slip free as is noted with fresh and year-old specimens in Appendix E. After some 30 years the swelling effect is much reduced but still discernable, as with the SPCOD3 (1969) grain below (Correll 38113).

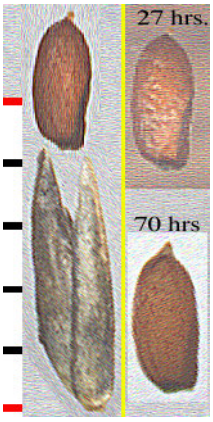
And the effect emerges much more slowly with older grains; first appearing with Sanders 3916 and Hatch 5826 after 10 minutes; Sanders 3915, one hour; Sanders 3908, two hours; and with Correll 38113, only after several days.



S. L. Hatch 5826 (1990)



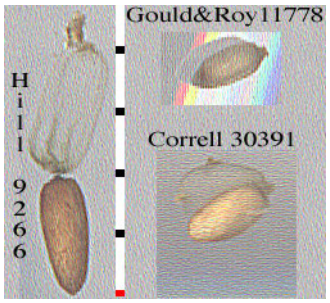
D. S. Correll 38113 (1969)



G. Edwards s.n. (1974)

If older grains do exhibit this feature, SPCL can safely be excluded; but if wetting produces no effect, SPCL may not so easily determined. Grains of Do 282 (1994), Carr 3516 (1981) and Edwards s.n. (1974; shown above) did not react to immersion in rainwater after 4 days. Given that specimens from 1964 (Correll 30391) and 1965 (Gould

& Roy 11778, Hill 9266) exhibited both swelling and release of the pericarp after 3 days (shown below), I would feel confident assigning the above nonreactive cases to SPCL on this basis alone; but less so with specimens older than 35 years. [It is worth noting here that in my opinion the above three holdings can also be assigned to SPCL on the basis of pubescence and spikelet size.]



SPCOD3 grains from 1964-1965 after 71 hours.

The lack of a reaction with the Correll & Correll specimens from 1961 and 1962 (below) after several days of immersion might seem to indicate 40 years as an upper limit.

Grains from 1961 and 1962,
collected by D. S. Correll & H. B. Correll
(SPCOC2: 24119, 7/27/1961; SPCOD3: 26648, 11/4/1962)