PLATE 1: MORPHOLOGY OF PENNISETUM SPECIES
Intra- and inter-specific variation in Pennisetum species (from left to right)

Spikes
1. *P. glaucum* (IG 99-748 or T1)
3. *P. ramosum* (IP 22180, IP 22137, IP 21935)
4. *P. orientale* (IP 22186, IP 21951, IG 04-165, IG 04-165)
5. *P. polystachyon* (IP 22102, IP 22109, IP 22121, IP 21904, IP 21900)

Nodes
9. *P. pedicellatum* (NATP D-1, IP 22095, IP 21890, IP 21883)
12. *P. polystachyon* (IP 22102, IP 22109, IP 22121, IP 21904, IP 21900)

Spikelet
15. *P. setaceum* (IP 21949), *P. pedicellatum* (Agros 4)

Seeds
PLATE 2: MEIOSIS IN PENNISETUM SPECIES

1. *P. glaucum* (81B) diakinesis (7II)
2. *P. glaucum* (81B) pollen
3. *P. glaucum* (T1) diakinesis (4I + 4II + 4IV)
4. *P. glaucum* (T1) anaphase I (14+14)
5. *P. glaucum* (T1) pollen
6-7. *P. violaceum* (PV 2433) diakinesis (7II)
8. *P. violaceum* (PV 2433) pollen
9. *P. mollisimum* (IP 21782) diakinesis (7II)
10. *P. mollisimum* (IP 21782) pollen
11. *P. schweinfurthii* (PS 233) diakinesis (7II + 2 Bs)
12. *P. schweinfurthii* (PS 233) pollen
13. *P. ramosum* (IP 22180) diakinesis (5II)
14. *P. ramosum* (IP 22180) pollen
15. *P. orientale* (IG 04-165) diakinesis (25II + 1IV)
16. *P. orientale* (IG 04-165) pollen
17. *P. divisum* (IP 21962) diakinesis (6I + 8II + 3IV)
18. *P. divisum* (IP 21962) pollen
19. *P. setaceum* (IP 21949) diakinesis (9I + 9II)
20. *P. setaceum* (IP 21949) pollen.
PLATE 2: MEIOSIS IN *PENNISETUM* SPECIES
21. *P. flavidum* (IP 22195) diakinesis (11 + 20II + 1IV)
22. *P. flavidum* (IP 22195) Anaphase I (lagging chromosomes)
23. *P. flavidum* (IP 22195) pollen
24. *P. hoheneckeri* (IP 21954) diakinesis (9II)
25. *P. hoheneckeri* (IP 21954) dyad (9+9)
26. *P. hoheneckeri* (IP 21954) anaphase I
27. *P. polystachyon* (IP 22102) diakinesis (22II + 2III + 1IV)
28. *P. polystachyon* (IP 22102) anaphase I (2n=54)
29. *P. polystachyon* (IP 22102) pollen
30. *P. pedicellatum* (IP 21879) anaphase I (2n=54)
31. *P. pedicellatum* (IP 21879) pollen
32. *P. pedicellatum* (IP 22095) diakinesis (15II + 2III)
33. *P. pedicellatum* (IP 22095) pollen
34. *P. pedicellatum* (Agros 4) diakinesis (2I + 19II + 4III + 5IV)
35. *P. pedicellatum* (Agros 4) anaphase I (2n=72)
36. *P. pedicellatum* (Agros 4) pollen
37. *P. squamulatum* (IG 98-360) diakinesis (15II + 2III + 5IV)
38. *P. squamulatum* (IG 98-360) anaphase I (2n=56)
39. *P. squamulatum* (IG 2000-36) diakinesis (26II + 1IV)
40. *P. squamulatum* (IG 2000-36) pollen
PLATE 2: (Contd.)
PLATE 3: ISOZYMES IN PENNISETUM SPECIES

1. Esterase set 1 (PAGE) (samples from left to right)

2. Esterase set 2 (PAGE) (samples from left to right)

3. Esterase set 3 (PAGE) (samples from left to right)

4. Superoxide Desmutase set 1 (PAGE) (samples from left to right)

5. Superoxide Desmutase set 2 (PAGE) (samples from left to right)

6. Superoxide Desmutase set 3 (PAGE) (samples from left to right)

7. Peroxidase set 1 (starch gel) (samples from left to right)
P. glaucum T1, T2 (or IG 2000-01), 81B, 81A1, P. violaceum PV 2433, IP 21634, IP 21532, IP 21524, IP 21634, IP 21579, P. squamulatum IG 98-360.

8. Peroxidase set 2 (starch gel) (samples from left to right)

9. Peroxidase set 3 (starch gel) (samples from left to right)

10. GDH set 1 (PAGE) (samples from left to right)
P. glaucum T1, T2, P. mollisimum IP 21782, P. violaceum IP 21532, IP 21634, P. squamulatum IG 98-360.

11. GDH set 2 (PAGE) (samples from left to right)
P. clendenstenum IG 04-166, P. pedicellum NATP D-1, P. polystachyon IP 22102, IP 21971, IP 22095.

12. GDH set 3 (PAGE) (samples from left to right)
P. squamulatum IG 98-360, P. flavidum IP 22195, IP 22188.

13. GDH set 3 (PAGE) (samples from left to right)

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PLATE 3: ISOZYMES IN *PENNISETUM* SPECIES
1-2. *P. schweinfurthii* (PS 233 diploid) diakinesis 7II
3. *P. schweinfurthii* (2x) metaphase I
4. *P. schweinfurthii* (2x) anaphase I
5. *P. schweinfurthii* (2x) pollen (magnification 10x)
6. *P. schweinfurthii* (2x) pollen (magnification 40x)
7-9. *P. schweinfurthii* (induced tetraploid) diakinesis 2n=28
10. *P. schweinfurthii* (induced tetraploid) metaphase I
11. *P. schweinfurthii* (induced tetraploid) metaphase I with two univalents
12-13. *P. schweinfurthii* (induced tetraploid) anaphase I 2n=28
14. *P. schweinfurthii* (induced tetraploid) telophase I
15. *P. schweinfurthii* (induced tetraploid) pollen (magnification 10x)
16. *P. schweinfurthii* (induced tetraploid) pollen (magnification 40x)
PLATE 4: DIPLOID AND INDUCED TETRAPLOID
P. SCHWEINFURTHII
PLATE 5: INDUCTION OF TETRAPLOIDY IN DIPLOID MALE STERILE PEARL MILLET LINES

1. Colchicine treatment to shoot (shoot treatment)
2. 81A1 (2x) seeds
3. 81A1 (induced tetraploid) seeds
4. T1 seeds
5. 81A4 (2x) seeds
6. 81A4 (induced tetraploid) seeds
7. T1 seeds
8. Spike showing numerous seeds in C1 generation
9. Induced tetraploid of 81A1 (C0 generation)
10. Diploid 81A1 (initiation of flowering)
11. Induced tetraploid of 81A1 (C1 generation, no initiation of flowering)
12. T1
13. Induced tetraploid of 81A4 (C0 generation)
14. Diploid 81A4 (flowering)
15. Induced tetraploid of 81A4 (C1 generation, no initiation of flowering)
16. Stomata 81A1 (2x)
17. Stomata 81A1 (induced tetraploid)
18. Stomata 81A4 (2x)
19. Stomata 81A4 (induced tetraploid)
PLATE 6: CYTOLOGICAL OBSERVATIONS IN DIPLOID AND INDUCED TETRAPLOID MALE STERILE PEARL MILLET

1. Diploid pearl millet (81A1 male sterile) diakinesis 7II.
2-3. Diploid pearl millet (81A1 male sterile) pollen.
4. Induced tetraploid of 81A1 (diakinesis 14II).
5. Induced tetraploid of 81A1 (diakinesis 2I + 13III).
6. Induced tetraploid of 81A1 (diakinesis 16II + 4IV).
7. Induced tetraploid of 81A1 (diakinesis 10II + 2IV).
8. Induced tetraploid of 81A1 (metaphase I).
11-12. Induced tetraploid of 81A1 non viable pollen.
13. Induced tetraploid of 81A4 (diakinesis 2I + 13III).
17. Induced tetraploid of 81A4 (dyad with chromosome bridges).
18. Induced tetraploid of 81A4 (tetrad).
19-20. Induced tetraploid of 81A4 non viable pollen.
PLATE 6: CYTOLOGICAL OBSERVATIONS IN DIPLOID AND INDUCED TETRAPLOID MALE STERILE PEARL MILLET
PLATE 7: EMBRYO RESCUE IN INTERSPECIFIC CROSSES OF PENNISETUM

1. Control (T1) and Hybrid (T1 x P. pedicellatum Agros 4 (germination difference).
2. Two weeks old control plantlets.
3. Four weeks old plantlets.
4. Hybrids (pearl millet x P. polystachyon and pearl millet x P. pedicellatum).
5. Hybrids (pearl millet x P. pedicellatum).
6. Hybrids (pearl millet x P. pedicellatum) and control plantlets (from right to left).
7. Hybrid pearl millet x P. pedicellatum (10 weeks).
8. Hybrids (pearl millet x P. polystachyon (10 weeks).
PLATE 7: EMBRYO RESCUE IN INTERSPECIFIC CROSSES OF PENNISETUM
PLATE 8: MORPHOLOGY OF PEARL MILLET (4x) X P. SQUAMULATUM F₁ AND BC₁ HYBRIDS

1. Pearl millet (T1).
2. Spikes (from left to right: T1, P. squamulatum IG 98-360, H1, H2, BC₁ (last five spikes).
3. Spikes (from left to right: T1, P. squamulatum IG 98-360, H1, H2, BC₁ (last two spikes).
4. Node color and hairiness variation in parents, F₁ and BC₁ (from left to right: first four spikes of BC₁, H1, H2, P. squamulatum IG 98-360, T1).
5. Violet coloured stigma of P. squamulatum and white coloured stigma of pearl millet (T1).
6. Variation in stigma colour (from left to right: violet stigma of P. squamulatum, white of T1, white of H1 and violet of H2).
7. Trifid and violet coloured stigma of P. squamulatum.
8. Stigma colour variation in BC₁ plants.
9. Morphology pearl millet (T2).
15. H4.
17-23. Variation in morphology of BC₁ plants.
PLATE 8: MORPHOLOGY OF PEARL MILLET (4x) X *P. SQUAMULATUM* F₁ AND BC₁ HYBRIDS
PLATE 9: CYTOLOGICAL OBSERVATIONS IN PEARL MILLET, *P. SQUAMULATUM* AND THEIR HYBRIDS

1. *P. glaucum* (T1) diakinesis (8II + 3IV)
2. *P. glaucum* (T1) metaphase I
3. *P. glaucum* (T1) pollen
4. *P. squamulatum* (IG 98-360) diakinesis (15II + 2III + 5IV)
5. *P. squamulatum* (IG 98-360) diakinesis (20II + 4IV)
6. *P. squamulatum* (IG 98-360) metaphase (14II + 7IV)
7. *P. squamulatum* (IG 98-360) metaphase (1I + 13II + 6IV + 1V)
8. *P. squamulatum* (IG 98-360) metaphase (15II + 1III + 3IV + 1V + 1IV)
9. *P. squamulatum* (IG 98-360) anaphase I (2n=56)
10. *P. squamulatum* (IG 98-360) mitosis (metaphase 2n=56)
11. *P. squamulatum* (IG 2000-36) diakinesis (26II + 1IV)
12. *P. squamulatum* (IG 2000-36) pollen
13. F₁ (H1) diakinesis (21II)
14. F₁ (H1) diakinesis (2I + 20II)
15. F₁ (H1) dyad (21 + 21)
16. F₁ (H1) pollen
17. F₁ (H2) diakinesis (17II + 2IV)
18. F₁ (H2) diakinesis (2I + 18II + 1IV)
19. F₁ (H2) diakinesis (21II)
20. F₁ (H2) dyad (22 + 20)
PLATE 9: CYTOLOGICAL OBSERVATIONS IN PEARL MILLET, *P. SQUAMULATUM* AND THEIR HYBRIDS

1  2  3  4

5  6  7  8

9  10  11  12

13  14  15  16

17  18  19  20
21. H1 diakinesis.
22. H1 dyad (21:21).
23. H1 pollen (showing high fertility and size difference) 83.9 %.
24. Hybrid 2 (H2) diakinesis $21_{II}$.
26. H2 diakinesis ($21_{II}$).
27. H2 dyad.
29. H2 pollen (63.7 % fertility).
30. H3 diakinesis ($2I + 20_{II}$).
31. H3 diakinesis ($4I + 19_{II}$).
32. H3 metaphase I.
33. H3 pollen (29.2% fertility).
34. H4 diakinesis ($2I + 18_{II} + 1_{IV}$).
35. H4 diakinesis ($21_{II}$).
37. H4 pollen (30.8% fertility).
38. H5 diakinesis $21_{II}$.
40. H5 pollen (73.6 % fertility).
PLATE 10: CYTOLOGICAL OBSERVATIONS IN BC1 PLANTS (PEARL MILLET (4x) X P. SQUAMULATUM)

1. H1T1 diakinesis (15II + 1IV).
2. H1T1 anaphase I (2n=35).
3. H1T1 Tripolar anahase I (non-orientation of chromosomes).
4. H1T1 metaphase I (8I + 9II + 3III).
5. H1T1 Tripolar anahase I.
6. H1T1Tripolar anahase I with three laggards.
7. H1T1 non orientation of chromosomes at telophase I.
8. H1T1 hexad with two microcytes.
9. H1T1 hexad with five equal sized microsperes.
10. H1T1 hexad with two microcytes.
11. H1T1 pollen (sterile).
12. T1H1 diakinesis (2I + 15II + 1III).
13. T1H1 anaphase I (2n=35).
14. T1H1 non viable pollen showing complete sterility.
15. H1T2 diakinesis (3I + 16II).
16-17. H1T2 tetrad with microcytes.
18. H1T2 pollen non viable showing complete sterility.
19. T2H1 diakinesis (5I + 15II).
20. T2H1 diakinesis with 8 univalents.
PLATE 10: CYTOLOGICAL OBSERVATIONS IN BC1 PLANTS
(PEARL MILLET (4x) X P. SQUAMULATUM)
21-22. T2H1 (Pollen-variation in size and fertility of different plants of this cross).
23. T1H1 diakinesis.
24. T1H2 metaphase I (10I + 11II + 1III).
25. T1H2 metaphase I (8I + 12II + 1III) 8 univalents were counted in the metaphase I.
26. T1H2 anaphase I 2n=35 (20:15).
27. T1H2 dyad (22:13).
28. T1H2 metaphase II showing precocious division in one microcyte.
29. T1H2 pollen (14 % fertility).
30. T1H2 pollen (sterile).
31. T2H2 diakinesis (7I +12II + 1IV).
32. T2H2 diakinesis (6I+13II + 1III).
33-34. T2H2 diakinesis (5I +15II).
35. T2H2 diakinesis (8I +11II + 1IV).
36. T2H2 tetrad showing chromosome bridges.
37. T2H2 meiotic product with micro nuclei in microspore.
38-40. Variation in pollen fertility in different plants of same cross (T2H2).
PLATE 11: ISOZYMES AND NATIVE PROTEIN IN PEARL MILLET AND P. SQUAMULATUM F₁ AND BC₁ HYBRIDS

1. Esterase (samples from left to right)

2. Esterase (samples from left to right)
   *P. squamulatum* (IG 98-360), H₂, *P. glaucum* (T₁), T₂, BC₁ (T₂H₂ MP 4/15, MP 4/14, MP 4/12, MP 2/24), (T₁H₂ MP 4/10, MP 2/20, MP 2/21), (T₁H₁ MP 5/35), H₁.

3. Superoxide desmutase (samples from left to right)

4. Superoxide desmutase (samples from left to right)
   *P. squamulatum* (IG 98-360), H₂, *P. glaucum* (T₁), T₂, BC₁ (T₂H₂ MP 4/15, MP 4/14, MP 4/12, MP 2/24), (T₁H₂ MP 4/10, MP 2/20, MP 2/21), (T₁H₁ MP 5/35), H₁.

5. Peroxidase (samples from left to right)

6. Peroxidase (samples from left to right)
   *P. squamulatum* (IG 98-360), H₂, *P. glaucum* (T₁), T₂, BC₁ (T₂H₂ MP 4/15, MP 4/14, MP 4/12, MP 2/24), (T₁H₂ MP 4/10, MP 2/20, MP 2/21), (T₁H₁ MP 5/35), H₁.

7. Native protein (samples from left to right)

8. Native protein (samples from left to right)
   *P. squamulatum* (IG 98-360), H₂, *P. glaucum* (T₁), T₂, BC₁ (T₂H₂ MP 4/15, MP 4/14, MP 4/12, MP 2/24), (T₁H₂ MP 4/10, MP 2/20, MP 2/21), (T₁H₁ MP 5/35), H₁.
PLATE 11: ISOZYMES AND NATIVE PROTEIN IN PEARL MILLET AND *P. SQUAMULATUM* F1 AND BC1 HYBRIDS
PLATE 12: MORPHOLOGY OF GO AND GOS HYBRIDS

1 and 3. Lines 1 and 3 are F₁ hybrids showing late flowering then BC₁ in lines 2 and 4.
2. F₁ hybrid.
4. Hybrid 1 (BC₁ x T1) turned out to be an annual.
5. Hybrid 2 (BC₁ x T2) turned out to be an annual.
6. Hybrid 3 (BC₁ x T2) perennial.
7. GOS Hybrid 4 (BC₁ x H1) perennial.
8. GOS Hybrid 5 & 6 (BC₁ x H2) perennial.
9. GOS Hybrid 7 (BC₁ X H2) perennial.
10. GOS Hybrid 8 (BC₁ X H2) perennial.
11. GOS Hybrid 9 (BC₁ X H2) perennial.
12. Hybrid 10 (diploid pearl millet 81 A4 x H2) annual.
PLATE 12: MORPHOLOGY OF GO AND GOS HYBRIDS
PLATE 13: MEIOSIS IN PEARL MILLET, *P. ORIENTALE* AND THEIR F₁ AND BC₁ HYBRIDS

1. Pearl millet (81B) diakinesis (7II).
2. Pearl millet pollen.
3. *P. orientale* (IG 04-165) diakinesis (2n=54, 23 II + 2 IV).
4. *P. orientale* pollen.
5-6. F₁ (Hybrid) diakinesis (2n=16, 7G +9O).
7. F₁ binucleolate pollen mother cell.
8. F₁ diakinesis (2n=32, precocious division of chromosomes).
9. F₁ diakinesis (3 micronucleoli).
10. F₁ microsporocyte (showing few condensed chromosomes).
11. F₁ microsporocyte (showing cytomixis at early prophase).
12. F₁ pollen mitosis.
13. F₁ pollen mitosis (2n=16).
14. BC₁ diakinesis 7II + (5I + 2II)O.
15-16. BC₁ metaphase I (9 univalents of *P. orientale* can be invariable seen).
17. BC₁ telophase I.
18. BC₁ prophase II (multiple micronuclei).
19. BC₁ tetrad.
20. BC₁ tetrad with pycnotic micronuclei.

(When bridges broke in anaphase and telophase I, they gave rise to micronuclei that persisted in pycnotic form in later stages).
PLATE 13: MEIOSIS IN PEARL MILLET, *P. ORIENTALE* AND THEIR F₁ AND BC₁ HYBRIDS
1. F\(_1\) (GO) diakinesis 2n=16, 7\(_I\)G + (7\(_I\) + 1\(_{II}\))O.
2. Pearl millet (diploid) diakinesis 2n=14.
3. BC\(_1\) (GO) a uninucleolate microsporocyte at pachytene.
4-6. BC\(_1\) (GO) a binucleolate microsporocyte at pachytene.
7. BC\(_1\) (GO) diakinesis 2n=23 (8\(_I\) + 3\(_{II}\))G+ (7\(_I\) + 1\(_{II}\))O.

Aspects of meiocytes that underwent microsporogenesis in mature anthers:
8-9. Prophase meiocyte found among normal pollen grains before entering meiosis. Note the well-developed exine wall.
10. 7\(_{II}\)G + 9\(_I\)O.
11. 7\(_{II}\)G + (3\(_I\) + 3\(_{II}\))O.
12. 7\(_{II}\)G + (4\(_{II}\) + 1\(_I\))O.
13. 7\(_{II}\)G + (3\(_I\) + 3\(_{II}\))O.
14. 7\(_{II}\)G + (3\(_I\) + 1\(_{II}\))O.
15. 7\(_{II}\)G + (3\(_I\) + 5\(_{II}\))O.
16. 7\(_{II}\)G + (2\(_I\) + 4\(_{II}\))O.
17. 7\(_{II}\)G + (3\(_I\) + 3\(_{II}\))O.
18. 7\(_{II}\)G + 7\(_I\)O.
19. (2\(_I\) + 7\(_{II}\))G + (4\(_I\) + 1\(_{II}\))O.
20. 7\(_{II}\)G + (7\(_I\) + 1\(_{II}\))O.
PLATE 14: MEIOSIS IN PARENTS AND BC¹ (GO) PLANT 2
1-4. Two to three cells linked together exhibiting cytomixis.
5. One cell showing diakinesis [(2I + 7II)G + (3I + 4II)O] and one cell at leptotene.
6. Two cells linked together with one empty cell.
7. Cells attached together showing different chromosome numbers.
8-16. Note the cytoplasmic channel between two cells.
17-20. Cells showing anaphase and telophase.
PLATE 15: CYTOLOGICAL OBSERVATIONS IN BC₁ (GO) PLANT 2
PLATE 16: MEIOSIS IN [BC1 (GO) X PEARL MILLET (4x)] HYBRIDS
1. BC1 (GO): diakinesis (7II + 9I).
2. BC1 (GO): metaphase I with 9 smaller univalents (of P. orientale).
4. Pearl millet (T1): metaphase I (2II + 5IV).
5. Pearl millet (T1): pollen.
8. Hybrid 1: diakinesis (3I + 13II + 2IV).
9. Hybrid 1: metaphase I (9 univalents of P. orientale are invariably seen).
10. Hybrid 1: anaphase I.
11. Hybrid 1: pollen (sterile).
15. Hybrid 2: pollen (sterile).
17. Hybrid 3: diakinesis 5IV (note the interlocking present).
19. Hybrid 3: metaphase I.
PLATE 17: MEIOSIS IN GOS HYBRID 4

1. BC₁ (GO) diakinesis 7₁G + 9₀O.
2. BC₁ (GO) diakinesis 7₁I₉G + (5₁ +2₁I)O.
3. H₁ (pearl millet x P. squamulatum) diakinesis 2₁II.
4. H₁ (pearl millet x P. squamulatum) pollen.
5. GOS Hybrid 4 diakinesis (1₀₁ + 14₁II + 2₁III).
6. GOS Hybrid 4 diakinesis (1₂₁ + 1₁II + 2₁III + 1₁IV).
7-8. GOS Hybrid 4 diakinesis (all univalents).
9. GOS Hybrid 4 dyad.
10. GOS Hybrid 4 anaphase II.
11. GOS Hybrid 4 (non orientation of chromosomes at anaphase II).
12-13. GOS Hybrid 4 (four nucleate and three nucleate coenocytic microspore).
14-15. GOS Hybrid 4 (non orientation of chromosomes at anaphase I).
16-17. GOS Hybrid 4 diakinesis (note the well-developed exine wall while diakinesis still going on similar to the female parent).
18-19. GOS Hybrid 4 (tetrad and pentad).
20. GOS Hybrid 4 pollen (sterile).
PLATE 18: CYTOLOGICAL OBSERVATIONS IN GOS HYBRID 5

1. BC1 (GO): diakinesis 7IIG + (5_{1} +2_{II})O.
2. H1 (pearl millet x P. squamulatum): diakinesis 21_{II}.
3. GOS hybrid 5: pachytene showing condensation difference in the chromosomes of three genomes.

Aspects of meiocytes that underwent microsporogenesis in mature anthers:

4-5. GOS hybrid 5: diakinesis Note the well-developed exine wall while diakinesis still going on.
6. GOS hybrid 5: diakinesis (9_{1} +17_{II}).
7-8. GOS hybrid 5: diakinesis.
9. GOS hybrid 5: metaphase.
10. GOS hybrid 5: dyad.
11-12. GOS hybrid 5: late anaphase I.
13-14. GOS hybrid 5: tripolar anaphase I with three nucleoli.
15. GOS hybrid 5: tetrad.
16. GOS hybrid 5: microcytes of different sizes, with different amounts of chromosomes.
17-18. GOS hybrid 5: two and three microcytes with different chromosome numbers attached showing cytomixis had occurred at an early stage.
19. GOS hybrid 5: released microspores with microcytes.
20. GOS hybrid 5: pollen (sterile).
PLATE 19: MEIOSIS IN GOS HYBRID 6 AND HYBRID 7
1. \( BC_1 \) (GO): diakinesis \( 7_{II} G + (5_I +2_{II})O. \)
2. \( H_1 \) (pearl millet x \( P. squamulatum \)): diakinesis \( (21_{II}) \).
3. GOS hybrid 6: (pachytene showing condensation difference in the chromosomes of three genomes).
4-6. GOS hybrid 6: diakinesis (with higher associations like trivalents and quadrivalents).
7. GOS hybrid 6: metaphase I (9 smaller univalents of \( P. orientale \)).
8. GOS hybrid 6: anaphase I (with univalents at plate).
9. GOS hybrid 6: telophase I.
10. GOS hybrid 6: pollen (sterile).
11. GOS hybrid 7: diakinesis (with many univalents).
12-13. GOS hybrid 7: metaphase I.
14. GOS hybrid 7: anaphase I.
15. GOS hybrid 7: tripolar anaphase I.
16. GOS hybrid 7: pentad.
17. GOS hybrid 7: hexad.
18. GOS hybrid 7: heptad.
19. GOS hybrid 7: meiocytes (size difference present).
20. GOS hybrid 7: pollen (sterile).
PLATE 19: MEIOSIS IN GOS HYBRID 6 AND HYBRID 7
PLATE 20: MEIOSIS IN GOS HYBRID 8 AND HYBRID 10

1-3. Hybrid 8: diakinesis 2n=44 (note the presence of multivalents).
4. Hybrid 8: non-orientation of chromosomes at anaphase I.
5. Hybrid 8: metaphase I with 11 univalents.
6. Hybrid 8: anaphase I.
7. Hybrid 8: metaphase I with 8 univalents.
8. Hybrid 8: telophase I (one small chromosome as laggard probably of *P. orientale*).
11-12. Hybrid 8: tetrad.
15. Hybrid 10: diakinesis (14II + 1III + 1IV).
17. Hybrid 10: metaphase I (with many univalents).
PLATE 20: MEIOSIS IN GOS HYBRID 8 AND HYBRID 10