

8. Sorghum Nucleus, Breeder Seed Production & DUS

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Breeder Seed Production during 2008-09

The total breeder seed production during 2008-09 by AICSIP canter was 210.07 Q which is 156.07Q (288%) more than BSP-I allocation (54.0 Q). The quantum of production of breeder seed for most of the allocated lines and varieties of sorghum at five AICSIP centers in *Kharif* was highly satisfactory, with no shortfalls. For rabi, the expected quantum of seed production (based on BSP-IV) at six centers in *Rabi* seasons during 2008-09 has been reported. The total allocation for NRCS as per BSP I was 6.80 Q, against which higher production of 86.25 Q was achieved which is 79.45 Q (1268%) more than the BSP I allocation. There were no mismatches in sorghum breeder seed production for the year 2008-09. The details of total and centre-wise breeder seed production during 2008-09 are given in Table 1 and table 2 respectively.

Nucleus Seed Production during 2008-09

The expected nucleus seed production across centers was highly satisfactory. A total of 643 kg nucleus seed is expected to be produced against an indent of 652 kg, with an expected deficit in AKR 150, AKR 73, 296 A and CS 3541 at Akola and AKMS 14A at Udaipur (Table 3).

DUS characterization in Sorghum during 2008-09

As received from the PPV&FRA, a total of nine candidate varieties (J11061, J 1062, J 1126, J 1127, J 1119, MRS 4649, MIJ 006, MIJ 007, JKSH 574) were characterized at NRCS and MPKV Rahuri, along with seven reference varieties (GFS 4, CSV 17, RS 29, MANT 1, PVK 400, Parbhni Dagadi, Surat 1) during kharif 2008. During rabi one candidate variety (CSV17) is being characterized at NRCS and MPKV Rahuri along with seven reference varieties (CSV 15, 7B, 14 B, AKR 150, Indore 12, C 43, 2219 B). At NRCS, a total of 87 new entries consisting of hybrids, varieties and parental lines were characterized for 33 DUS traits during Kharif season (SPH 1596, PC 1003, UTFS 49, PC 1002, SU 1211, NFS 2, S 541, UTM 1304, GK 909, UTM 534, JHV 14, SPSSV 11, SPSSV 6, SPV 1779, SPV 1781, SPV 1782, IMS 9A, IMS9B, RS 629, SPH 1467, SPH 1567, 7A, 7B, RS 627, CSH 23, NRCSH-1 NRCSH-2, NRCSH-3, NRCSH-4, NRCSH-5 NRCSH-6 NRCSH-7, NRCSH-8, NRCSH-9, NRCSH-10, 206A, 206B, 372A, 372B, 279A, 297B, SPV 1786, CB 24, CB 9, 219B, 219A, CB 11, CB23, CB26, 27A, 27B, CB29, CB27, NR 486, 2295A, 2295B, ICSA 467A, ICSA 467B, IS 18758, M 36121, IS 9302, ICSV 2, IS 9323, ICSV 112, ICSV 1001BF, ICSV 111, A 6460, ICSV 1, DP7-682, IS 8571, ICSV 1063BF, ICSV 1079BF, M90038, ICSV 401, IS 29415, IS 13444, , IS 9830, M 90393, ICSV 210, SDSV 1594-1, ICSV 1007BF). The characterization of six entries was abandoned due to absence of genetic purity (PMS 28A, PMS 28B) and non-flowering in kharif season (IS 8193, IS 15401, IS 25395, IS 21219). During rabi season, a total of 40 new entries are being characterized at NRCS (27A, 27B, 279A, 279B, 2295A, 2295B, SP 55609A, SP 55609B, ICSA 467A, ICSA 467B, 151A, 151B, AKMS 30A, AKMS 30B, 36A, 36B, AKR -73, AKR-436, 1023A, 1023B, 11A2, 11B2, TNS 30, CB11, S-541, CB10, PC-6, AKR 476, PMCO4-700R, Naari-SS34, SPH 1501, SPV 1795, SPH 1620, SPV 1794, SPH 1462, SPV 1798, IS 18551, IS 22005, NSSV 254, SPSSV 6)

Table 1: Centre-wise breeder seed production (quintals) of sorghum during 2008-09

| S. No. | Name of the Producing Centre/State | Name of the variety / parental line | DAC Indent | Actual allocation as per BSP - I target | Actual Production | Production surplus (+) Deficit (-) over BSP-I targets |
|--------------------|------------------------------------|-------------------------------------|------------|---|-------------------|---|
| I | | | | | | |
| Kharif | | | | | | |
| 1 | Dr. PDKV, Akola | AKMS 14A | 1.12 | 1.00 | 5.15 | 4.15(+) |
| | | 14B | 0.50 | 0.50 | 4.18 | 3.68(+) |
| | | AKR 150 | 1.18 | 1.25 | 4.63 | 3.38(+) |
| | | PKV Kranti | 1.55 | 2.00 | 2.00 | 0.00 |
| 2 | MAU, Parbhani | Parbhani Moti | 3.12 | 3.50 | 5.00 | 1.50(+) |
| | | Parbhani Jyothi | 1.05 | 1.25 | 2.00 | 0.75(+) |
| 3 | JNKVV, Indore | IMS 9A | 0.05 | 0.15 | 0.20 | 0.05(+) |
| | | 9B | 0.04 | 0.10 | 0.20 | 0.10(+) |
| | | Indore 12 | 0.04 | 0.10 | 0.80 | 0.70(+) |
| | | JJ 938 | 0.20 | 0.50 | 4.00 | 3.50(+) |
| | | JJ 1041 | 2.10 | 3.00 | 7.00 | 4.00(+) |
| 4 | CRF, Mauranipur | CSV 13 | 1.40 | 1.50 | 2.00 | 0.50(+) |
| | | CSV 15 | 2.26 | 2.00 | 2.00 | 0.00(+) |
| | | Bundele | 0.70 | 1.00 | 3.00 | 2.00(+) |
| 5 | MPUA&T, Udaipur | AKMS 14A | 1.12 | 0.50 | 1.39 | 0.89(+) |
| | | 14B | 0.50 | 0.25 | 1.37 | 1.12(+) |
| | | CSV 15 | 2.26 | 2.00 | 2.10 | 0.10(+) |
| | | SU 556 (SPV 1430 / Pratap Jowar) | 0.73 | 1.00 | 1.20 | 0.20(+) |
| Total | | | | 21.60 | 48.22 | 26.62(+) |
| II | | | | | | |
| Rabi* | | | | | | |
| 6 | NRC for Sorghum, Hyderabad | 296A | 1.27 | 2.00 | 5.00 | 3.00(+) |
| | | 296B | 0.80 | 1.00 | 5.00 | 4.00(+) |
| | | CS 3541 | 0.74 | 1.00 | 1.00 | 0.00 |
| | | 27A | 0.57 | 1.00 | 5.00 | 4.00(+) |
| | | 27B | 0.28 | 0.50 | 5.00 | 4.50(+) |
| | | C 43 | 0.46 | 0.50 | 5.00 | 4.50(+) |
| | | RS 673 | 0.22 | 0.25 | 0.25 | 0.00 |
| | | MS 7A | 0.23 | 0.30 | 5.00 | 4.70(+) |
| | | MS 7B | 0.22 | 0.25 | 5.00 | 4.75(+) |
| | | RS 29 | - | - | 5.00 | 5.00(+) |
| | | RS 627 | - | - | 5.00 | 5.00(+) |
| | | AKMS 14A | - | - | 5.00 | 5.00(+) |
| | | 14B | - | - | 5.00 | 5.00(+) |
| | | AKR 150 | - | - | 5.00 | 5.00(+) |
| | | 2219 A | - | - | 5.00 | 5.00(+) |
| | | 2219 B | - | - | 5.00 | 5.00(+) |
| | | UPMC 503 | - | - | 3.00 | 3.00(+) |
| | | CSV 17 | - | - | 12.00 | 12.00(+) |
| CSV 20 | - | - | 25.00 | 25.00(+) | | |
| SSV 84 | - | - | 25.00 | 25.00(+) | | |
| 7 | ANGRAU, Hyderabad | AKMS 14A | 1.12 | 0.50 | 0.50 | 0.00 |
| | | 14B | 0.50 | 0.25 | 0.25 | 0.00 |
| | | AKR 150 | 1.18 | 1.00 | 1.00 | 0.00 |
| | | SPV 462 | 0.50 | 1.00 | 1.00 | 0.00 |
| 8 | RARS, Bijapur | M 35-1 | 4.25 | 7.00 | 7.00 | 0.00 |
| 9 | CRS, Solapur | 104A | 0.02 | 0.15 | 0.15 | 0.00 |
| | | 104B | 0.02 | 0.10 | 0.10 | 0.00 |
| | | RS 585 | 0.01 | 0.10 | 0.10 | 0.00 |
| 10 | UAS, Dharwad | AKMS 14A | 1.12 | 0.50 | 0.50 | 0.00 |
| | | 14B | 0.50 | 0.25 | 0.25 | 0.00 |
| | | AKR 150 | 1.18 | 0.25 | 0.25 | 0.00 |
| 11 | MPKV, Rahuri | CSV 216R | 0.33 | 1.00 | 1.00 | 0.00 |
| | | Phule Vasudha | 1.21 | 1.50 | 1.50 | 0.00 |
| | | Chitra | 11.32 | 12.00 | 12.00 | 0.00 |
| Total | | | | 32.40 | 161.85 | 129.45(+) |
| Grand total | | | | 54.00 | 210.07 | 156.07(+) |

*Expected production in rabi

Table 2: Variety-wise breeder seed production (quintals) of sorghum during kharif 2008

| S. No. | Hybrids/Varieties | Year of Release & Notification | Actual allocation as per BSP-I target | Expected production | Production surplus (+) Deficit (-) over BSP-I targets |
|----------------------|---------------------------------|--------------------------------|---------------------------------------|---------------------|---|
| (A) Hybrids | | | | | |
| 1 | CSH 9 | S.O 19 (E) / 14.01.82 | | | |
| | 296A | | 2.00 | 5.00 | 3.00(+) |
| | 296B | | 1.00 | 5.00 | 4.00(+) |
| | CS 3541 | | 1.00 | 1.00 | 0.00 |
| 2 | CSH 13R | S.O647(E)/09.09.97 | | | |
| | RS 29* | | - | 5.00 | 5.00(+) |
| 3 | CSH 14 | S.O.814(E) - 4.11.1992 | | | |
| | AKMS 14 A | | 2.50 | 12.54 | 10.04(+) |
| | AKMS 14 B | | 1.25 | 11.05 | 10.05(+) |
| | AKR 150 | | 2.50 | 10.58 | 8.38(+) |
| 4 | CSH 15R | S.O1(E)/01.01.96 | | | |
| | 104 A | | 0.15 | 0.15 | 0.00 |
| | 104 B | | 0.10 | 0.10 | 0.00 |
| | RS 585 | | 0.10 | 0.10 | 0.00 |
| 5 | CSH 16 | S.O647(E)/09.09.97 | | | |
| | 27 A | | 1.00 | 5.00 | 4.00(+) |
| | 27 B | | 0.50 | 5.00 | 4.50(+) |
| | C 43 | | 0.50 | 5.00 | 4.50(+) |
| 6 | CSH 17 | S.O425(E)/08.06.99 | | | |
| | RS 673 | | 0.25 | 0.25 | 0.00 |
| 7 | CSH 18 | S.O.1050(E) - 26.10.1999 | | | |
| | IMS 9A | | 0.15 | 0.20 | 0.05(+) |
| | IMS 9B | | 0.10 | 0.20 | 0.10(+) |
| | Indore 12 | | 0.10 | 0.80 | 0.70(+) |
| 8 | CSH 20MF | S.O1172(E)/25.08.05 | | | |
| | 2219 A | | | 5.00 | 5.00(+) |
| | 2219 B | | | 5.00 | 5.00(+) |
| | UPMC 503 | | | 3.00 | 3.00(+) |
| 9 | CSH 23 | S.O. 1566(E)/05.11.2005 | | | |
| | 7 A | | 0.30 | 5.00 | 4.70(+) |
| | 7 B | | 0.25 | 5.00 | 4.75(+) |
| | RS 627 | | | 5.00 | 5.00(+) |
| 10 | SPH 387 | S.O. 937(E) - 04.9.2002 | | | |
| | SU 556 (SPV 1430/ Pratap Jowar) | | 1.00 | 1.20 | 0.20(+) |
| (B) Varieties | | | | | |
| 1 | CSV 13 | S.O.471(E) - 5.5.1988 | 1.50 | 2.00 | 0.50(+) |
| 2 | CSV 15 | S.O.349(E) - 2.5.1996 | 4.00 | 4.10 | 0.10(+) |
| 3 | JJ 938 | S.O.1(E) - 1.1.1996 | 0.50 | 4.00 | 3.50(+) |
| 4 | JJ 1041 | S.O.425(E) - 8.6.1999 | 3.00 | 7.00 | 4.00(+) |
| 5 | Bundele | S.O.1566 (E)-5.11.2005 | 1.00 | 3.00 | 2.00(+) |
| 6 | PKV Kranti | 2004 | 2.00 | 2.00 | 0.00 |
| 7 | Parbhani Moti | S.O.122 (E) -2.02.2005 | 3.50 | 5.00 | 1.50(+) |
| 8 | Parbhani Jyothi | | 1.25 | 2.00 | 0.75(+) |
| 9 | CSV 17 | | | 12.00 | 12.00(+) |
| 10 | CSV 20 | | | 25.00 | 25.00(+) |
| 11 | SPV 62 | S.O.867(E)-26.11.86 | 1.00 | 1.00 | 0.00 |
| 12 | M 35-1 | S.O.596(E)-13.08.84 | 7.00 | 7.00 | 0.00 |
| 13 | CSV 216R | S.O.821(E)-13.09.00 | 1.00 | 1.00 | 0.00 |
| 14 | Phule Vasudha | | 1.50 | 1.50 | 0.00 |
| 15 | Chitra | | 12.00 | 12.00 | 0.00 |
| 16 | SSV 84 | S.O.814(E)-04.11.1992 | | 25.00 | 25.00(+) |
| | TOTAL | | 54.00 | 210.07 | 156.07(+) |

Table 3: Centre-wise nucleus seed production (kg) of sorghum during 2008-09

| S. No. | Centre | Parental line / variety | Allocation | Production | Surplus (+) / Deficit (-) over allocation |
|--------|--------------------|-------------------------|------------|------------|---|
| 1. | MPKV, Rahuri | RSV 9R/SPV 504 / Swathi | 10 | 10 | 0 |
| 2. | | Selection 3 | 5 | 5 | 0 |
| 3. | | CSV 216R/Phule Yashoda | 10 | 10 | 0 |
| 4. | | CSV 19SS (RSSV 9) | 15 | 15 | 0 |
| 5. | | SSV 84 | 15 | 15 | 0 |
| 6. | | RSSGV 3 | 10 | 10 | 0 |
| 7. | PDKV, Akola | AKMS 14A | 25 | 26 | 1 (+) |
| 8. | | 14B | 15 | 15 | 0 |
| 9. | | AKR 150 | 15 | 12 | 3 (-) |
| 10. | | AKR 73 | 10 | 7 | 3 (-) |
| 11. | | R 354 | 10 | 10 | 0 |
| 12. | | AK 70A | 10 | 12 | 2 (+) |
| 13. | | AK 70B | 5 | 5 | 0 |
| 14. | | 296A | 10 | 9 | 1 (-) |
| 15. | | 296B | 5 | 6 | 1 (+) |
| 16. | | CS 3541 | 10 | 8 | 2 (-) |
| 17. | MAU, Parbhani | PVK 400 | 5 | 15 | 10 (+) |
| 18. | | 2077A | 10 | 10 | 0 |
| 19. | | 2077B | 5 | 5 | 0 |
| 20. | | 2219A | 15 | 15 | 0 |
| 21. | | 2219B | 10 | 10 | 0 |
| 22. | | CSV 18 (SPV 1595) | 5 | 15 | 10(+) |
| 23. | JNKVV, Indore | IMS 9A | 5 | 5 | 0 |
| 24. | | 9B | 5 | 5 | 0 |
| 25. | | Indore 12 | 5 | 5 | 0 |
| 26. | CRF, Mauranipur | CSV 13 | 10 | 10 | 0 |
| 27. | | CSV 15 | 10 | 10 | 0 |
| 28. | | Bundela | 5 | 5 | 0 |
| 29. | MAUA&T, Udaipur | AKMS 14A | 10 | 8 | 2 (-) |
| 30. | | 14B | 5 | 5 | 0 |
| 31. | | AKR 150 | 5 | 5 | 0 |
| 32. | | CSV 10 | 5 | 5 | 0 |
| 33. | | CSV 15 | 10 | 10 | 0 |
| 34. | | CSV 17 | 10 | 10 | 0 |
| 35. | | SU 556 (SPV 1430) | 5 | 5 | 0 |
| 36. | GBPUA&T, Pantnagar | 2219A | 10 | 10 | 0 |
| 37. | | 2219B | 5 | 15 | 0 |
| 38. | | UPMC 503 | 5 | 20 | 0 |
| 39. | NRCS, Hyderabad | 2077A | 10 | 5 | 0 |
| 40. | | 2077B | 5 | 5 | 0 |
| 41. | | 2219A | 10 | 5 | 0 |
| 42. | | 2219B | 5 | 5 | 0 |
| 43. | | CS 3541 | 5 | 3 | 0 |
| 44. | | 296A | 10 | 10 | 0 |
| 45. | | 296B | 5 | 5 | 0 |
| 46. | | RS 29 | 5 | 5 | 0 |
| 47. | | 27A | 20 | 10 | 0 |
| 48. | | 27B | 15 | 5 | 0 |
| 49. | | C 43 | 15 | 5 | 0 |
| 50. | | RS 673 | 5 | 10 | 0 |
| 51. | | CSV 14R | 5 | 5 | 0 |
| 52. | | CSV 15 | 15 | 15 | 0 |
| 53. | | SPV 1616 | 10 | 10 | 0 |
| 54. | | ICSA 38 | 25 | 25 | 0 |

| S. No. | | Parental line / variety | Allocation | Production | Surplus (+) / Deficit (-) over allocation |
|--------|---------------------|-------------------------|------------|------------|---|
| 55. | | ICSB 38 | 15 | 15 | 0 |
| 56. | | SSV 84 | 15 | 10 | 0 |
| 57. | | MS 7A | 10 | 10 | 0 |
| 58. | | 7B | 5 | 5 | 0 |
| 59. | | RS 627 | 10 | 5 | 0 |
| 60. | ANGRAU, Hyderabad | SPV 462 | 10 | 10 | 0 |
| 61. | ICRISAT, Patancheru | MR 750 | 3 | 3 | 0 |
| 62. | | ICSV 745 | 3 | 3 | 0 |
| 63. | | CSV 13 | 6 | 6 | 0 |
| 64. | RARS, Bijapur | M 35-1 | 30 | 30 | 0 |
| 65. | CRS, Solapur | 104A | 5 | 5 | 0 |
| 66. | | 104B | 5 | 5 | 0 |
| 67. | | RS 585 | 5 | 5 | 0 |
| 68. | UAS, Dharwad | M 148-138 | 5 | 5 | 0 |
| 69. | | AKMS 14A | 10 | 10 | 0 |
| 70. | | 14B | 5 | 5 | 0 |
| 71. | | AKR 150 | 5 | 5 | 0 |
| | | Total | 652 | 643 | 9 (-) |