**Table S1.** Summary of weather parameter at different planting date during year-1, year-2 and year-3

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Year | Planting date | Parameter | Tmax (°C) | Tmin (°C) | RHm (%) | RHe (%) | Total rainfall (mm) | Sunshine (h/day) | Wind (km/h) | Total rainy days |
| Year-1 | PD1 | Mean | 32.7 | 25.3 | 88.1 | 69.2 | 278.8 | 6.3 | 3.6 | 12.0 |
| Range | 27.5-35.8 | 21.8-27.4 | 72.0-94.0 | 55.0-92.0 | 0.0-90.0 | 0.0-11.0 | 1.0-7.0 | 0.0-1.0 |
| PD2 | Mean | 32.9 | 23.8 | 89.2 | 61.9 | 231.5 | 7.9 | 3.2 | 8.0 |
| Range | 27.5-35.8 | 20.0-27.4 | 72.0-96.0 | 43.0-89.0 | 0.0-90.0 | 0.0-11.0 | 1.0-7.0 | 0.0-1.0 |
| Year-2 | PD1 | Mean | 33.8 | 24.2 | 86.5 | 59.8 | 37.5 | 8.3 | 1.7 | 3.0 |
| Range | 30.4-35.8 | 20.2-26.6 | 70.0-96.0 | 45.0-91.0 | 0.0-24.0 | 1.0-11.0 | 0.0-4.0 | 0.0-1.0 |
| PD2 | Mean | 32.4 | 23.2 | 89.8 | 60.4 | 49.5 | 5.9 | 1.9 | 2.0 |
| Range | 28.2-35.6 | 18.8-26.0 | 70.0-96.0 | 36.0-82.0 | 0.0-24.0 | 0.0-11.0 | 0.0-5.0 | 0.0-1.0 |
| Year-3 | PD1 | Mean | 32.7 | 24.2 | 89.5 | 70.0 | 151.6 | 6.8 | 4.5 | 9.0 |
| Range | 26.0-39.4 | 21.0-27.0 | 77.0-100.0 | 49.0-95.0 | 0.0-40.4 | 0.0-12.0 | 2.0-16.0 | 0.0-1.0 |
| PD2 | Mean | 33.2 | 22.7 | 89.2 | 59.2 | 24.0 | 7.6 | 3.1 | 3.0 |
| Range | 27.0-36.6 | 17.0-25.8 | 79.0-96.0 | 41.0-94.0 | 0.0-13.6 | 0.0-10.0 | 1.0-6.0 | 0.0-1.0 |

**Table S2** Effect of genotype and planting date on false smut infected panicle (%) during three consecutive years

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Genotype | Infected panicle (%) | | | | | | | | Overall mean |
| Year-1 | |  | Year-2 | |  | Year-3 | |
| PD1 | PD2 |  | PD1 | PD2 |  | PD1 | PD2 |  |
| RGS-1 | 16.8 g-j | 16.8 e-g |  | 0.0 i | 0.0 j |  | 6.0 d | 3.0 de | 7.1 g-i |
| RGS-2 | 2.3 n | 3.9 h |  | 0.0 i | 1.7 h-j |  | 0.0 g | 4.2 de | 2.0 n |
| RGS-3 | 12.4 i-m | 9.6 f-h |  | 0.0 i | 3.4 f-j |  | 1.3 e-g | 15.1 c | 7.0 g-i |
| RGS-4 | 8.5 j-n | 11.2 e-h |  | 0.0 i | 2.3 g-j |  | 15.1 bc | 14.8 c | 8.7 f-h |
| RGS-5 | 29.1 ef | 17.7 ef |  | 0.0 i | 3.6 f-j |  | 0.0 g | 7.2 d | 9.6 fg |
| PR103 | 17.4 g-j | 13.7 e-h |  | 0.0 i | 0.0 j |  | 0.0 g | 27.5 b | 9.8 fg |
| PR115 | 25.4 e-g | 53.6 a |  | 0.0 i | 1.6 h-j |  | 0.0 g | 32.6 b | 18.9 d |
| HKR47 | 12.5 h-m | 3.3 h |  | 0.0 i | 2.5 g-j |  | 1.1 e-g | 1.9 de | 3.5 j-n |
| PR120 | 34.0 de | 35.5 c |  | 8.6 de | 9.8 d |  | 11.8 c | 16.9 c | 19.4 d |
| CS # | 75.4 a | 49.4 ab |  | 14.8 c | 21.9 c |  | 18.6 b | 40.1 a | 36.7 b |
| RGM-1 | 13.4 h-k | 4.6 h |  | 0.0 i | 3.4 f-j |  | 5.2 de | 0.0 e | 4.4 i-n |
| RGM-2 | 13.9 h-k | 5.8 f-h |  | 5.4 fg | 4.6 e-i |  | 1.2 e-g | 0.5 e | 5.2 i-l |
| RGM-3 | 3.2 l-n | 3.2 h |  | 0.0 i | 1.5 h-j |  | 11.3 c | 0.0 e | 3.2 k-n |
| PR106 | 9.6 j-n | 17.7 ef |  | 0.0 i | 4.7 e-i |  | 0.8 fg | 0.0 e | 5.5 i-k |
| PR108 | 39.9 cd | 35.3 c |  | 5.3 fg | 5.5 d-h |  | 0.0 g | 0.0 e | 14.3 e |
| PR111 | 12.8 h-l | 1.8 h |  | 0.0 i | 0.0 j |  | 0.0 g | 0.0 e | 2.4 l-n |
| PR113 | 20.9 f-i | 9.0 f-h |  | 3.4 gh | 0.8ij |  | 3.7 d-g | 0.0 e | 6.3 h-j |
| PR114 | 3.0 mn | 3.3 h |  | 3.9 gh | 1.1 h-j |  | 2.5 d-g | 0.0 e | 2.3 mn |
| CM # | 54.6 b | 58.6 a |  | 18.3 b | 64.1 a |  | 49.2 a | 14.8 c | 43.3 a |
| IR8 | 10.0 j-n | 5.0 gh |  | 0.0 i | 7.4 d-f |  | 5.2 d-f | 0.6 e | 4.7 i-n |
| HKR127 | 14.7 h-k | 5.9 f-h |  | 0.0 i | 0.0 j |  | 6.2 d | 3.5 de | 5.1 i-m |
| INDRASAN | 14.0 h-k | 5.0 gh |  | 0.0 i | 0.0 j |  | 3.8 d-g | 0.0 e | 3.8 j-n |
| PR121 | 3.4 l-n | 5.2 gh |  | 2.2 hi | 0.0 j |  | 2.6 d-g | 0.0 e | 2.2 mn |
| RGL-1 | 5.3 k-n | 8.0 f-h |  | 4.0 gh | 6.9 d-g |  | 0.0 g | 0.0 e | 4.1 j-n |
| RGL-2 | 9.4 j-n | 5.3 gh |  | 0.0 i | 0.0 j |  | 0.0 g | 0.0 e | 2.4 l-n |
| RGL-3 | 3.3 l-n | 4.9 gh |  | 0.0 i | 1.5 h-j |  | 11.4 c | 0.0 e | 3.5 j-n |
| RGL-4 | 34.1 de | 35.7 bc |  | 9.6 d | 33.7 b |  | 0.0 g | 0.5 e | 19.0 d |
| PR118 | 27.9 ef | 22.7 de |  | 8.1de | 9.0 de |  | 0.0 g | 0.0 e | 11.3 f |
| PUSA44 | 15.5 h-j | 32.4 cd |  | 6.4 ef | 0.0 j |  | 0.0 g | 0.0 e | 9.0 f-h |
| PR122 | 22.1 f-h | 22.5 de |  | 9.0 d | 2.7 g-j |  | 2.9 d-g | 0.0 e | 9.9 fg |
| CL # | 47.7 bc | 51.6 a |  | 23.6 a | 18.6 c |  | 17.6 b | 13.3 c | 28.7 c |
| Mean | 19.8 | 18.0 |  | 4.0 | 6.8 |  | 5.7 | 6.3 | 10.1 |
| Min | 2.3 | 1.8 |  | 0.0 | 0.0 |  | 0.0 | 0.0 | 2.0 |
| Max | 75.4 | 58.6 |  | 23.6 | 64.1 |  | 49.2 | 40.1 | 43.3 |

LSD (p=0.05): Genotype = 7.6, planting date = 1.9, genotype x planting date = 10.7 for year-1, Genotype = 2.4, planting date = 0.6, genotype x planting date = 3.3 for year-2, Genotype = 3.5, planting date = 0.9, genotype x planting date = 5.0for year-3

\* Mean value followed by different alphabets within column are significantly different at p = 0.05 according to fisher’s Least Significance Test

**Table S3** Effect of genotype and planting date on number of false smut balls per plant during three consecutive years

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Genotype | Number of false smut balls per plant | | | | | | | | Overall  mean |
| Year-1 | |  | Year-2 | |  | Year-3 | |
| PD1 | PD2 |  | PD1 | PD2 |  | PD1 | PD2 | Mean |
| RGS-1 | 3.2 g-i | 3.9 f-j |  | 0.0 g | 0.0 f |  | 1.4 e-g | 0.5 e | 1.5 h-l |
| RGS-2 | 0.3 i | 0.7 ij |  | 0.0 g | 0.3 f |  | 0.0 g | 0.6 e | 0.3 l |
| RGS-3 | 2.4 g-i | 1.7 h-j |  | 0.0 g | 0.7 f |  | 0.3 g | 3.3de | 1.4 h-l |
| RGS-4 | 1.2 i | 2.1 h-j |  | 0.0 g | 0.5 f |  | 6.1 c | 3.3 de | 2.2 g-k |
| RGS-5 | 8.5 d-f | 3.3 g-j |  | 0.0 g | 0.7 f |  | 0.0 g | 1.4 e | 2.3 g-j |
| PR103 | 3.8 f-i | 2.5 h-j |  | 0.0 g | 0.0 f |  | 0.0 g | 7.4 c | 2.3 g-j |
| PR115 | 6.8 e-g | 13.1 b-d |  | 0.0 g | 0.3 f |  | 0.0 g | 15.5 b | 5.9 de |
| HKR47 | 2.1 g-i | 0.7 ij |  | 0.0 g | 0.5 f |  | 0.2 g | 0.2 e | 0.6 l |
| PR120 | 12.0 b-d | 8.2 d-g |  | 1.4 c-e | 2.1 d-f |  | 2.5 d-g | 5.2 cd | 5.2 e |
| CS # | 25.1 a | 13.8 a-c |  | 3.3 bc | 5.1 c |  | 4.4 cd | 21.7 a | 12.2 b |
| RGM-1 | 2.4 g-i | 0.9 ij |  | 0.0 g | 0.6 f |  | 1.1 e-g | 0.0 e | 0.8 kl |
| RGM-2 | 2.3 g-i | 0.9 ij |  | 0.9 d-g | 1.0 f |  | 0.2 g | 0.1 e | 0.9 j-l |
| RGM-3 | 0.6 i | 0.6 ij |  | 0.0 g | 0.3 f |  | 3.2 d-f | 0.0 e | 0.8 kl |
| PR106 | 1.6 hi | 3.3 g-j |  | 0.0 g | 1.0 f |  | 0.1 g | 0.0 e | 1.0 i-l |
| PR108 | 16.3 b | 8.8 c-f |  | 0.9 d-g | 1.1 f |  | 0.0 g | 0.0 e | 4.5 ef |
| PR111 | 1.8 g-i | 0.2 j |  | 0.0 g | 0.0 f |  | 0.0 g | 0.0 e | 0.3 l |
| PR113 | 3.3 g-i | 1.4 h-j |  | 0.5 e-g | 0.1 f |  | 0.9 e-g | 0.0 e | 1.1 i-l |
| PR114 | 0.5 i | 0.5 j |  | 0.6 e-g | 0.2 f |  | 0.6 fg | 0.0 e | 0.4 l |
| CM # | 27.1 a | 18.7 a |  | 6.2 a | 40.7 a |  | 39.5 a | 2.7 de | 22.5 a |
| IR8 | 1.6 hi | 0.9 ij |  | 0.0 g | 1.6 ef |  | 1.7 d-g | 0.1 e | 1.0 i-l |
| HKR127 | 2.5 g-i | 1.3 ij |  | 0.0 g | 0.0 f |  | 1.1 e-g | 0.5 e | 0.9 j-l |
| INDRASAN | 2.5 g-i | 1.1 ij |  | 0.0 g | 0.0 f |  | 1.0 e-g | 0.0 e | 0.8 l |
| PR121 | 0.7 i | 0.9 ij |  | 0.4 fg | 0.0 f |  | 0.6 fg | 0.0 e | 0.4 l |
| RGL-1 | 0.9 i | 2.8 h-j |  | 0.9 d-f | 1.1 f |  | 0.0 g | 0.0 e | 0.9 i-l |
| RGL-2 | 1.7 hi | 0.8 ij |  | 0.0 g | 0.0 f |  | 0.0 g | 0.0 e | 0.4 l |
| RGL-3 | 0.5 i | 0.5 j |  | 0.0 g | 0.3 f |  | 3.6 c-e | 0.0 e | 0.8 kl |
| RGL-4 | 9.9 c-e | 10.6 b-e |  | 2.2 c | 18.0 b |  | 0.0 g | 1.1 e | 7.0 d |
| PR118 | 8.5 d-f | 6.3 e-h |  | 1.5 cd | 4.1 cd |  | 0.0 g | 0.0 e | 3.4 fg |
| PUSA44 | 2.7 g-i | 9.4 c-e |  | 2.1 c | 0.0 f |  | 0.0 g | 0.0 e | 2.4 g-i |
| PR122 | 6.3 e-h | 5.6 e-i |  | 2.3 c | 0.5 f |  | 0.9e-g | 0.0 e | 2.6 gh |
| CL # | 14.7 bc | 14.5 ab |  | 6.8 a | 3.5 c-e |  | 10.7 b | 2.8 de | 8.8 c |
| Mean | 5.6 | 4.5 |  | 1.0 | 2.7 |  | 2.6 | 2.1 |  |
| Min | 0.3 | 0.2 |  | 0.0 | 0.0 |  | 0.0. | 0.0 |  |
| Max | 27.1 | 18.7 |  | 6.8 | 40.7 |  | 39.5 | 21.7 |  |

LSD (p=0.05): Genotype = 3.5, planting date = 0.9, genotype x planting date = 4.9 for year-1, Genotype = 1.2, planting date = 0.3, genotype x planting date = 1.7 for year-2, Genotype = 2.1, planting date = 0.5, genotype x planting date = 3.0 for year-3

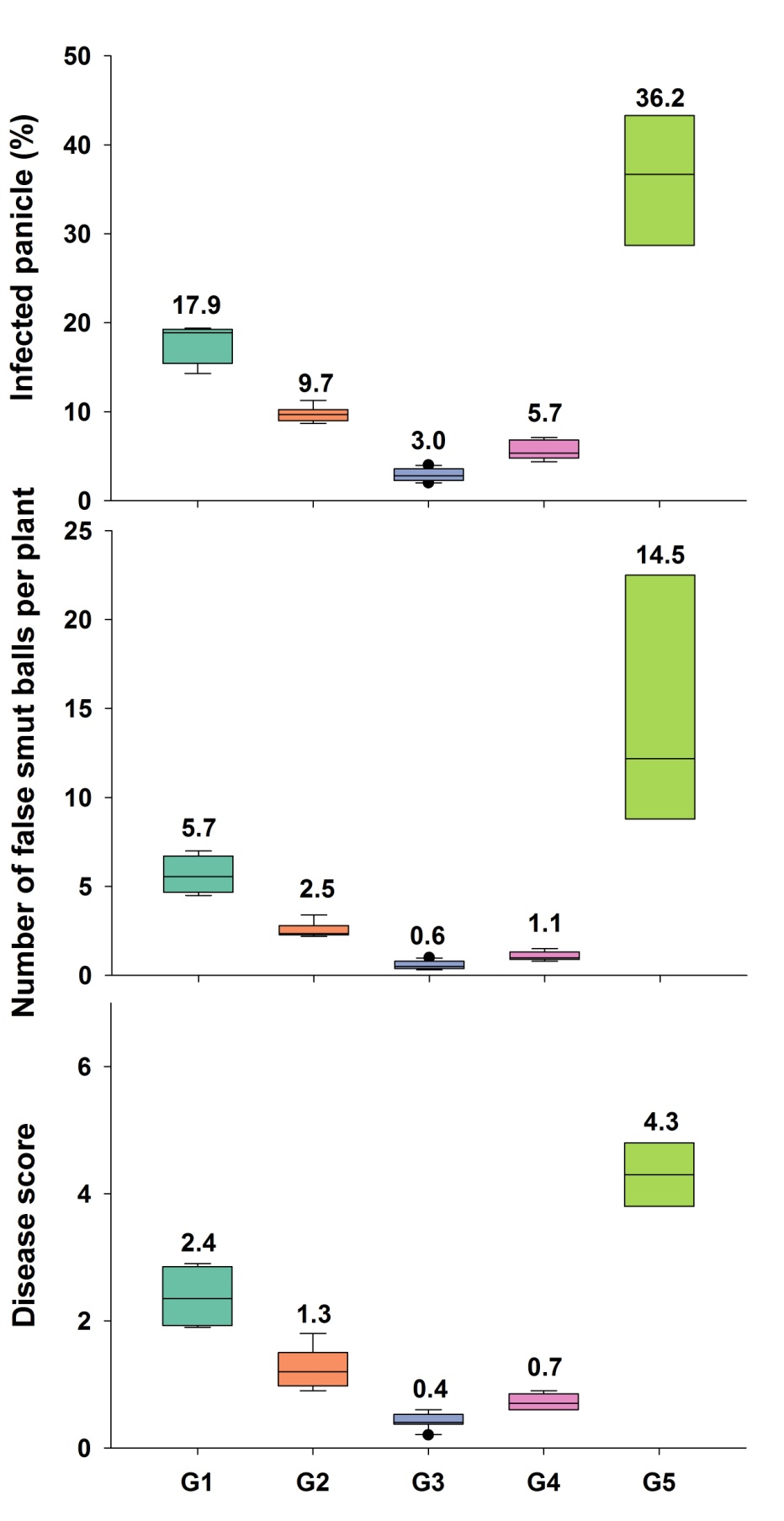
\* Mean value followed by different alphabets within column are significantly different at p = 0.05 according to fisher’s Least Significance Test

**Table S4** Effect of genotype and planting date on false smut disease score during three consecutive years

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Genotype | Disease score | | | | | | | | Overall mean |
| Year-1 | |  | Year-2 | |  | Year-3 | |
| PD1 | PD2 |  | PD1 | PD2 |  | PD1 | PD2 |
| RGS-1 | 1.5 d-f | 1.6 d-f |  | 0.0 g | 0.0 e |  | 0.7 gh | 0.3 ef | 0.7 h-k |
| RGS-2 | 0.2 g | 0.6 e-g |  | 0.0 g | 1.0 cd |  | 0.0 i | 0.5 d-f | 0.4 k-m |
| RGS-3 | 1.1 e-g | 0.9 e-g |  | 0.0 g | 1.0 cd |  | 0.2 hi | 1.9 c | 0.9 g-j |
| RGS-4 | 0.6 fg | 1.2 e-g |  | 0.0 g | 1.0 cd |  | 2.6 c | 1.8 c | 1.2 fg |
| RGS-5 | 2.1 de | 1.8 de |  | 0.0 g | 1.0 cd |  | 0.0 i | 0.7 d-f | 0.9 g-i |
| PR103 | 1.1 e-g | 1.3 d-g |  | 0.0 g | 0.0 e |  | 0.0 i | 3.7 b | 1.0 f-h |
| PR115 | 2.4 cd | 4.0 c |  | 0.0 g | 1.0 cd |  | 0.0 i | 4.5 b | 2.0 e |
| HKR47 | 0.7 fg | 0.5 fg |  | 0.0 g | 1.0 cd |  | 0.2 hi | 0.2 f | 0.4 k-m |
| PR120 | 3.6 b | 3.9 c |  | 0.9 ef | 3.0 b |  | 1.3 d-f | 3.5 b | 2.7 d |
| CS # | 7.0 a | 5.9 a |  | 1.6 d | 3.5 b |  | 2.3 c | 5.5 a | 4.3 b |
| RGM-1 | 1.2 d-g | 0.6 e-g |  | 0.0 g | 1.0 cd |  | 0.9 e-g | 0.0 f | 0.6 i-l |
| RGM-2 | 1.2 d-g | 0.7e-g |  | 1.1 de | 1.0 cd |  | 0.3 hi | 0.1 f | 0.7 h-k |
| RGM-3 | 0.5 fg | 0.5 fg |  | 0.0 g | 1.0 cd |  | 1.5 de | 0.0 f | 0.6 i-l |
| PR106 | 0.9 e-g | 1.4 d-g |  | 0.0 g | 1.0 cd |  | 0.1 hi | 0.0 f | 0.6 i-m |
| PR108 | 4.6 b | 4.2 c |  | 1.0 e | 1.7 c |  | 0.0 i | 0.0 f | 1.9 e |
| PR111 | 1.0 e-g | 0.2 g |  | 0.0 g | 0.0 e |  | 0.0 i | 0.0 f | 0.2 m |
| PR113 | 1.5 d-f | 1.1 e-g |  | 1.0 e | 0.7de |  | 0.9 fg | 0.0 f | 0.9 g-j |
| PR114 | 0.3 g | 0.4 fg |  | 1.0 e | 1.0 cd |  | 0.5 g-i | 0.0 f | 0.5 j-m |
| CM # | 6.2 a | 6.3 a |  | 2.5 bc | 6.5 a |  | 5.8 a | 1.3 c-e | 4.8 a |
| IR8 | 0.8 fg | 0.6 e-g |  | 0.0 g | 1.7 c |  | 0.9 fg | 0.1 f | 0.7 h-l |
| HKR127 | 1.1 e-g | 0.8 e-g |  | 0.0 g | 0.0 e |  | 0.9 fg | 0.6 d-f | 0.6 i-m |
| INDRASAN | 1.0 e-g | 0.7 e-g |  | 0.0 g | 0.0 e |  | 0.6 gh | 0.0 f | 0.4 k-m |
| PR121 | 0.3 g | 0.5 fg |  | 1.0 e | 0.0 e |  | 0.4 g-i | 0.0 f | 0.4 k-m |
| RGL-1 | 0.5 fg | 1.5 d-f |  | 0.3 fg | 1.0 cd |  | 0.0 i | 0.0 f | 0.6 i-m |
| RGL-2 | 0.7 fg | 0.7 e-g |  | 0.0 g | 0.3 de |  | 0.0 i | 0.0 f | 0.3 lm |
| RGL-3 | 0.4 fg | 0.5 fg |  | 0.0 g | 0.7 de |  | 1.5 d | 0.0 f | 0.5 j-m |
| RGL-4 | 3.5 bc | 4.3 bc |  | 2.3 d | 6.3 a |  | 0.0 i | 1.0 c-f | 2.9 d |
| PR118 | 2.1 de | 2.5 d |  | 1.7 d | 1.0 cd |  | 0.0 i | 0.0 f | 1.2 fg |
| PUSA44 | 1.3 d-g | 3.9 c |  | 3.0 ab | 0.0 e |  | 0.0 i | 0.0 f | 1.4 f |
| PR122 | 3.8 b | 3.9 c |  | 1.1de | 1.7 c |  | 0.5 g-i | 0.0 f | 1.8 e |
| CL # | 5.9 a | 5.5 ab |  | 3.5 a | 2.8 b |  | 3.3 b | 1.4 cd | 3.8 c |
| Mean | 1.9 | 2 |  | 0.7 | 1.3 |  | 0.8 | 0.9 | 1.3 |
| Min | 0.2 | 0.2 |  | 0.0 | 0.0 |  | 0.0 | 0.0 | 0.2 |
| Max | 7.0 | 6.3 |  | 3.5 | 6.5 |  | 5.8 | 5.5 | 4.8 |

LSD (p=0.05): Genotype = 0.8, planting date = 0.2, genotype x planting date = 1.2 for year-1, Genotype = 0.5, planting date = 0.1, genotype x planting date = 0.7 for year-2, Genotype = 0.6, planting date = 0.2, genotype x planting date = 0.8 for year-3

\* Mean value followed by different alphabets within column are significantly different at p = 0.05 according to fisher’s Least Significance Test

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**Figure S1** Cluster analysis of genotype according to the false smut variables over pooled data of three years