**SUPPLEMENTARY MATERIAL**

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| **Table S1. Experimental details of screening Indian sugarcane hybrids against internode borer *Chilo sacchariphagus indicus* during 2013-2016** |
| **Year** | **No. of hybrids evaluated** | **Location** | **Planting Date** | **Internode borer assessment** |
| **Date of observation** | **Damage parameters** |
| 2013 | 535 | ICAR-SBIRC, Kannur*1* | Jan 2013 | Dec 2013 | i. % bored canesii. % bored or tunneled internodesiii. Infestation index |
| 2014 | 187 | RSCL experimental farm*2* | Jan 2014 | Dec 2014 |
| 2015 | 52 | RSCL experimental farm | Jan 2015 | Jan 2016 |
| 2016 | 6 | RSCL experimental farm | Jan 2016 | Jan 2017 |
| *1* ICAR-Sugarcane Breeding Institute Research Center, Kannur, Kerala State, India*2*M/s Rajshree Sugars and Chemicals Ltd., Mundiyampakkam, Villupuram district, Tamil Nadu State, India |

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| **Table S2. Status of Indian sugarcane hybrids screened against internode borer *Chilo sacchariphagus indicus* in successive years (2013 - 2016)** |
| **Category** | **% incidence** | **Hybrids** |
| **Screening Year - 2013** |
| Resistant | 0.0-15.0 | Co 62022Co 1252Co 318SEL 74/1CoL 22Co 6611Co 1061Co 62143FR 28Co 530Co 993Co 62019 | Co 62213Co 62142Co 1212Co 62010Co 62268Co 281Co 285Co 6612Co 745Co 527Co 62018Co 62197 | Co 62009CoS 221Co 292Co 1057Co 1085Co 1321Co 348Co 877Co 1062Co 62101Co 847Co 293 | Co 62035Co 1206Co 1056Co 270Co 951Co 62060Co 62104Co 471Co 1067Co 337Co 710CoS 109 | Co 552Co 1099Co 62066CoS 574Co 1092Co 1112Co 62004Co 6415Co 639Co 770Co 62189Co 1183 | Co 453Co 467Co 62109Co 1090Co 937Co 617Co 62117Co 1011Co 1013CoK 34CoJ 64 Co SEL 74/12 | Co 456Co 62005Mys 130Co 670Co 6402Co 62191Co 1100Co 869Co 1240Co 62119Co 1063HM 607CoK 28 |
| Moderately resistant | 15.0- 30.0 | Co 389Co 1015Co 508Co 451Co 62175Co 62182Co 519Co 62269Co 1058Co 299Co 312Co 1071Co 1042Co 6618Co 213 | Co 330Co 422Co 341Co 889Co 6518Co 8231Co 1074Co 336BO 3Co 62215Co 1077Co 657CoK 22Co 1072Co 62200 | Co 62209Co 62194Co 62181Co 1166Co 1198Co 1159Co 719Co 62008Co 1203Co 62002Co 423Co 715Co 325Co 302Co 692 | Co 716Co 1161Co 755Co 840Co 319Co 1145Co 313Co 335Co 62193Co 359Co 684Co 764CoK 32Co 680Co 323 | Co 1110Co 1029Co 648Co 62224Co 1023CoK 30Co 766Co 918Co 6405CoK 38Co 6615Co 758Co 843Co 1137Co 976 | Co 300Co 717Co 393Co 6303Co 950Co 6320Co 210Co 6514Co 6806Co 1021Co 606Co 894Co 62212Co 691Co 827 | Co 640Co 1010Co 6706Co 6603Co 8339Co 558Co 6311Co 1048Co 940Co 1174 |

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| **Category** | **% incidence** | **Accessions** |
| Susceptible | >30.0 | Co 62021Co 790Co 1058Co 62162Co 724Co 1241Co 1283Co 62025Co 6709Co 697IC 36Co 1247Co 1093Co 1118Co 1154Co 1277Co 62055Co 62115IC 228Co 1080Co 1087Co 1205Co 1209S 406Co 378Co 621Co 1043Co 1102Co 1134Co 1138Co 1181Co 331Co 723Co 214Co 396 | Co 1254Co 1121Co 1130Co 1158Co 1196Co 933Co 1012IC 25IC 31Co 686Co 944Co 1005Co 62160BO 22Co 794Co 1192Co 62037Co 6516Co 626Co 816Co 945Co 1115Co 1279Co 62127Co 62227Co 62047Co 6414Co 1096Co 1244Co 1292Co 973Co 975Co 1108Co 1109Co 1177 | Co 645Co 732Co 747Co 62163Co 464Co 913Co 707Co 334Co 371Co 1129Co 445Co 304Co 904Co 6509Co 1165G 107Co 649Co 878Co 1088Co 1101Co 1156Co 1164Co 1176Co 1281Co 62011Co 62053Co 62089Co 62098Co 62131Co 62134Co 762Co 949Co 962Co 1050Co 1055 | Co 677Co 905Co 1020Co 1091Co 1114Co 62015Co 62038Co 62179Co 6524Co 634Co 1019Co 1113Co 1146Co 6319Co 6318Co 7230Co 62024Co 353Co 703Co 863Co 1041Co 6304Co 6515Co 6519CoK 33HM 629IC 217BO 11BO 91BO 99LG 7271Co 349Co 421Co 1002Co 375 | Co 1064Co 1175Co 1213Co 62079LG 7227Co 859Co 957Co 1028Co 1083Co 1111Co 1153Co 1179Co 1214Co 768Co 1044Co 1125Co 1144Co 1171BO 10Co 775CoK 39Co 407Co 424Co 903Co 1160Co 62068Co 62169IC 11Co 624Co 842Co 62085Co 347Co 1116Co 1131Co 1132 | Co 391Co 765Co 1133SG 63/32Co 1004Co 1014BO 21Co 62073Co 62128Co 62165Co 62129Co 1148Co 1287Co 62052Co 62103CoS 146SEL 76/59Co 7313Co 1046Co 1211Co 1191Co 62014Co 62133Co 62211Co 604Co 725Co 756Co 1126Co 1152Co 1201Co 6502CoL 9CoL 17CoK 31Co 613 | Co 769Co 773Co 564Co 607Co 6317Co 1027Co 1170CoK 36IC 216Co 740Mys 336Co 699IC 195LG 7270Co 7804Co 62078Co 1030Co 6309Co 822Co 6501Co 1276Co 661Co 695Co 828Co 857Co 1032Co 62170IC 137BO 43Co 1036Co 6306Co 383Co 736CoK 35Co 62132 |
| **Category** | **% incidence** | **Accessions** |
|  |  | LG 7331Co 1000Co 1141Co 1210Co 1018Co 7703Co 382Co 1182IC 136BO 4HIND SPECIALCo 301Co 6610Co 62175Co 1075 | Co 62105IC 130Co 1025Co 62080CoL 5Co 792Co 917Co 283Co 746Co 892Co 1054Co 6507Co 6602POJ 2878 X rCo 563 | Co 1079Co 1084Co 1107Co 781Co 845Co 946Co 1139Co 1216Co 1223Co 1224Co 1225Co 674Co 850Co 974CoC 671 | Co 900Co 797Co 1040Co 1073Co 6314Co 713Co 660Co 754Co 779Co 858Co 1049Co 1204Co 62168CoP 1Co 419 | Co 62258Co 7702CoJ 67Co 603Co 1052Co 1140Co 62141Co 1197Co 780Co 887Co 907Co 972Co 994Co 1288Co 708 | Co 961Co 1207Co 6616Co 6310Co 62203Co 890Co 1038Co 62188Co 62225IC 225Co 761Co 6508Co 6614Co 8232IC 200 | Co 6506Co 1024Co 6511Co 62042IC 37Co 676Co 788Co 921Co 418Co 912BO 30Co 386Co 818Co 86032Co 1060 |
| **Screening Year - 2014** |
| Resistant | 0.0-15.0 | Co 293Co 1056Co 770Co 62117Co 1015CoS 109Co 648Co 552 | Co 617Co 393CoS 574Co 918Co 639CoJ 64Co 6603Co 62101 | Co 62224Co 1072Co 312Co 6405HM 607Co 62191 Co 62193Co 62019 | Co 670Co 1029Co 62213Co 335Co 302 Co 1203Co 6612Co 471 | Co 62018Co 1063Co 6611Co 657 Co 766Co 389Co 1099Co 456 | Co 1110Co 1166CoK 34 Co 843Co 558BO 3 Co 1090Co 1198 | Co 710Co 745 |
| Moderately resistant | 15.0- 30.0 | Co 422Co 62008Co 691Co 62005Co 299Co 951Co 336Co 62215Co 715Co 1112Co 62104 | Co 6514Co 62175Co 1145Co 527Co 804Co 1074Co 467Co 337Co 1100Co 755 Co 680 | Co 62212Co 1321Co 62182Co 940Co 1021Co 8231Co 6220Co 950Co 1085Co 6618 Co 325 | Co 62197Co 976Co 62209CoK 38Co 330Co 62189Co 348Co 847Co 6806Co 6402 Co1137 | Co 62009Co 719Co 1206Co 1092Co 1058CoK 22FR 28Co 62269Co 1174Co 62194 Co 6706 | Co 640Co 1161Co 894CoS 221Co 62268Co 1023Co 323CoK 32Co 313Co 62060Co 62002 | Co 1212Co 62022Co 937Co 285Co 606Co 993Co 758Co 764 Co 62004  |
| **Category** | **% incidence** | **Accessions** |
| Susceptible | >30.0 | Co 213Co 1010CoL 22Co 1048Co 530Co 341Co 877Co 717 Co 1062 | Co 300Co 1057Co 451Co 889Co 318Co 692Co 6518Co 1077Co 1071 | Co 869Co 8339Co 1061Co 519CoK 30Co 292Co 270Co 1013CoK 28 | Co 62143Co 508Co 62142Co 62109Co 359Co 1240Co 6303Co 62035MYS 130  | Co 1011Co 453Co 1159Co 423Co 716Co 6615Co 6311 Co 1067Co 827 | Co 1252Co 1042Co 210Co 319Co 1183Co 6415Co 684Co 281Co 62200 | Co 62010Co SEL74/12Co SEL 74/1 Co 62119 Co 62066Co 62181Co 86032Co 1060 |
| **Screening Year - 2015** |
| Resistant | 0.0-15.0 | CO 293 | CO 389 | CO 62019 | CO 62213 | - | - | - |
| Moderately resistant | 15.0- 30.0 | CO 1029CO 62117Co 639CO 62018 | CO 552CO 6405CO 1015CO 648 | CO S109CO 335CO 1063CO 1090 | CO 6612COS 574CO 471CO 456 | CO 6611CO 312CO K34CO 86032 | CO 62191CO 617HM 607CO 670 | CO 657CO 6603CO 393CO 745 |
| Susceptible | >30.0 | CO 62101CO 302CO 918 | CO 1072CO J64CO 62193 | BO 3CO 1166CO 558 | CO 1203CO 770CO 62224 | CO 766CO 1056CO 1099 | CO 1110CO 1198CO 843 | CO 1060CO 710 |
| **Screening Year - 2016** |
| Resistant | 0.0-15.0 | Co 293 | - | - | - | - | - | - |
| Moderately resistant | 15.0- 30.0 | - | - | - | - | - | - | - |
| Susceptible | >30.0 | Co 389 | Co 62213 | Co 62019 | Co 86032 | Co 1060 | - | - |

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| **Table S3. Summary of Indian sugarcane hybrids screened and categorized for *Chilo sacchariphagus indicus* resistance by the process of elimination during 2013-2016** |
| **Category** | **% infestation** | **Year of evaluation** |
| **2013** | **2014** | **2015** | **2016** |
| Resistant | 0.0-15.0 | 85 | 50 | 4 | 1 |
| Moderatelyresistant | 15.0-30.0 | 100 | 75 | 28 | 0 |
| Susceptible@ | >30.0 | 350 | 62 | 20 | 5 |
| Total |  | 535 | 187 | 52 | 6 |
| @Includes two susceptible checks carried forward to the next season |

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| **Table S4. Extent of injury by *Chilo sacchariphagus indicus* among six sugarcane hybrids screened in the field at ICAR-SBIRC, Kannur, Kerala State, India, in 2013** |
| **Hybrid** | **% of infestation** | **% of intensity** | **Infestation index** |
| Co 62019 | 4.55 | 7.41 | 0.34 |
| Co 62213 | 4.55 | 4.00 | 0.18 |
| Co 389 | 15.15 | 8.06 | 1.22 |
| Co 293 | 11.43 | 9.26 | 1.06 |
| Co 86032 | 29.17 | 11.76 | 3.43 |
| Co 1060 | 30.43 | 3.85 | 1.17 |

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| **Table S5. Phenolic content in shoots of three sugarcane hybrids screened for *Chilo sacchariphagus indicus* resistance** |
| **S. No.** | **Phenolic acid** | **Retention time (min)** | **Phenolic content (ppm)** |
| **Co 293** | **Co 1060** | **Co 86032** |
| 1 | Caffeic acid | 4.59 | 0.00039 | 0.00112 | 0.00045 |
| 2 | Rutin | 6.84 | 0.00237 | 0.00198 | 0.00058 |
| 3 | Vanillic acid | 27.63 | 0.01164 | 0.00431 | 0.00022 |
| 4 | Syringic acid | 28.96 | 0.31058 | 0.06059 | 0.62229 |
| 5 | Ellagic acid | 30.73 | 0.00740 | 0.00564 | 0.00028 |
| 6 | Ferulic acid | 32.65 | 0.00061 | 0.00040 | 0.00008 |
| 7 | Coumarin | 33.17 | 0.00103 | 0.00078 | 0.00014 |
| 8 | Flavone | 58.55 | 0.04323 | 0.00781 | 0.02455 |
| 9 | Catechin | 61.71 | 0.31490 | 0.16894 | 0.00031 |
| 10 | Gallic acid | 63.89 | - | 180.64945 | 719.90379 |
| 11 | Orcinol | 64.21 | 0.66115 | 0.12348 | 0.04703 |
| 12 | Phloroglucinol | 64.99 | - | 0.49639 | 0.00157 |