Sample abstract book

Sample produced by SHODHX for conference organisers

Demo National Symposium on Crop Climate Resilience

1–3 Feb 2027 · Demo Convention Centre, Hyderabad, Telangana, India

Demo Institute of Plant Sciences

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Foreword

This is a sample abstract book made with the SHODHX abstract book builder from a demonstration conference. Every person, institution, email address and result in it is fictional. Scientific text is printed exactly as the authors submitted it, including symbols such as 38 °C, $p < 0.05$ and $r = -0.61$.

Committees

Organising committee: Demo Organiser (Chair)

Scientific committee: Demo reviewers

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O-01 · Oral presentation · Soil health

Biochar and soil microbial carbon in rain-fed cotton

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BACKGROUND

Rain-fed cotton soils in central India are low in organic carbon.

OBJECTIVES

To measure how biochar changes microbial biomass carbon over two seasons.

METHODOLOGY

Randomised block trial with 0, 5 and 10 t/ha biochar; soil sampled at 0–15 cm at sowing and harvest.

RESULTS

Microbial biomass carbon rose by 23% at 10 t/ha ($p < 0.05$); yield was unchanged.

CONCLUSION

Biochar raised soil biological carbon without a yield penalty in the first two seasons.

Keywords: soil health

O-02 · Oral presentation · Transcriptomics

Drought-responsive transcripts in rice seedlings

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BACKGROUND

Drought limits rice yield across rain-fed India & neighbouring regions.

OBJECTIVES

To identify transcripts that respond to early drought stress.

METHODOLOGY

RNA-seq of 24 seedlings under 7-day water withholding; DESeq2 analysis.

RESULTS

We found 412 differentially expressed genes ($p < 0.05$), including 37 transcription factors.

CONCLUSION

Early drought response is dominated by ABA-linked regulators.

Keywords: rice, drought, RNA-seq

O-03 · Oral presentation · Transcriptomics

Early heat-shock transcripts in chickpea flowers

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BACKGROUND

Heat above 35 °C during flowering causes pod loss in chickpea.

OBJECTIVES

To find transcripts that respond within 6 h of heat stress in flowers.

METHODOLOGY

RNA-seq of flowers from two cultivars at 25 °C and 38 °C; three biological replicates; DESeq2 with FDR < 0.05.

RESULTS

We found 1,284 differentially expressed genes; HSP70 and HSFA2 rose 12-fold ($p < 0.01$) in the tolerant cultivar.

CONCLUSION

HSFA2 is a candidate marker for heat tolerance at flowering.

Keywords: transcriptomics

P-01 · Poster · Molecular breeding

A KASP marker for the Sub1 flood-tolerance locus

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BACKGROUND

Sub1 protects rice from short-term flooding.

OBJECTIVES

To design a low-cost KASP marker for Sub1A in local varieties.

METHODOLOGY

Designed primers on a SNP in Sub1A-1; validated on 96 lines with known flood response.

RESULTS

The marker agreed with the phenotype in 94 of 96 lines (97.9%).

CONCLUSION

The marker can replace gel-based screening in breeding programmes.

Keywords: molecular breeding

P-02 · Poster · Drought tolerance

Leaf rolling as a field screen for drought in rice

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BACKGROUND

Breeders need quick field screens for drought tolerance.

OBJECTIVES

To test whether a leaf-rolling score predicts grain yield under drought.

METHODOLOGY

Scored 120 lines on a 1–9 scale at 50% flowering under managed drought; correlated with plot yield.

RESULTS

Leaf-rolling score correlated with yield ($r = -0.61$, $n = 120$, $p < 0.001$).

CONCLUSION

Leaf rolling is a useful first screen before yield trials.

Keywords: drought tolerance

P-03 · Poster · Molecular breeding

Marker-assisted breeding for heat tolerance in wheat

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BACKGROUND

Heat during grain filling cuts wheat yield in Punjab.

OBJECTIVES

To pyramid two heat-tolerance QTLs.

METHODOLOGY

Marker-assisted backcrossing over four generations, field trials at two sites.

RESULTS

BC4 lines kept 18% more grain weight at 35 °C than the recurrent parent.

CONCLUSION

The pyramided lines are ready for multi-location testing.

Keywords: wheat, heat, QTL

Acknowledgements

Thanks to the demo authors and reviewers.

Author index

Rahul Das — P-01

Bilal Khan — O-02, P-03

Meena Kumari — P-01

Arjun Mehta — O-03, P-01

Ravi Menon — O-02

Priya Nair — O-03

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