

# Proceedings from the 2016 Sorghum Improvement Conference of North America (SICNA)

## "The New Faces of Sorghum"

September 19-21, 2016 Manhattan Conference Center & Hilton Garden Inn Manhattan, Kansas

## Organized by:









### SICNA 2016 - GPE11

#### Should the choice of pollination control bag types in sorghum matter?

D.S. Virk<sup>1</sup>, R.E. Schaffert<sup>2</sup>, A.A. Kumar<sup>3</sup>, A. Gaddameedi<sup>3</sup> and H. Senior<sup>4</sup>

<sup>1</sup>School of Environment, Natural Resources and Geography (SENRGy), Bangor University, Bangor, Gwynedd, Wales LL57 2UW UK

<sup>2</sup>Embrapa Milho e Sorgo, Sete Lagoas, Rodovia MG 424 KM 45,CEP:35.702-098, Sete Lagos-MG, Brazil

<sup>3</sup>Sorghum Breeding, ICRISAT, Patencheru, Hyderabad, Telangana 502324, India 4PBS International, Salter Road, Scarborough, YO11 3UP, UK 33

We report results of two studies, one conducted in Brazil in the winter season and another in India during the rainy season, which highlight the importance of selecting appropriate pollination bag type in sorghum. The Brazilian study used three varieties with different grain colours and five pollination bag treatments; no bagging, traditional paper bag, paper bag plus protective plastic screen bag, nonwoven duraweb® SG1 polypropylene bag and nonwoven duraweb® SG2 polyester bag. The paper bags performed worse for bird control; duraweb<sup>®</sup> SG1 bag was the best performer followed by duraweb<sup>®</sup> SG2 bag for panicle weight, seed weight and average seed weight per panicle, and control of bird damage. The ICRISAT study was conducted with four genotypes and five bag types (no bagging, standard paper bag, and three nonwoven fabric bags - duraweb<sup>®</sup> SG1, duraweb<sup>®</sup> SG2 and duraweb<sup>®</sup> SG3). The grain mould attack was the highest under the butter-paper and the lowest under the duraweb® SG1 bags, which showed even lower mould than the no-bag treatment. The duraweb® SG1 bags also showed significantly higher 100-seed weight than the paper bags or no bagging. After the no-bagging treatment, the paper bags were most vulnerable to bird damage. None of the new bag types made of nonwoven fabrics showed any bird damage. The evidence from both studies shows that newly developed nonwoven fabric bags provide a better alternative to paper bags in terms of greater protection against birds and in providing healthy and ambient micro-environment for the developing seed.