

A virtual seed file: the use of multispectral image analysis in the management of genebank seed accessions - DTU Orbit (08/11/2017)

A virtual seed file: the use of multispectral image analysis in the management of genebank seed accessions

We present a method for multispectral seed phenotyping as a fast and robust tool for managing genebank accessions. A multispectral vision system was used to take images of the seeds of 20 diverse varieties of rice (approximately 30 seeds for each variety). This was followed by extraction of feature information from the images. Multivariate analysis of the feature data was used to classify seed phenotypes according to accession. The proportion of correctly classified rice seeds was 93%. We conclude that the multispectral image analysis could play a role in comparing incoming seeds against existing accessions, identifying different seed types within a sample of seeds and/or in checking whether regenerated seeds match the original seeds.

General information

State: Published

Organisations: Department of Applied Mathematics and Computer Science , Image Analysis & Computer Graphics, Videometer A/S, International Rice Research Institute

Authors: Adsetts Edberg Hansen, M. (Ekstern), R. Hay, F. (Ekstern), Carstensen, J. M. (Intern)

Number of pages: 4

Publication date: 2015

Main Research Area: Technical/natural sciences

Publication information

Journal: Plant Genetic Resources

ISSN (Print): 1479-2621

Ratings:

BFI (2017): BFI-level 1

Web of Science (2017): Indexed Yes

BFI (2016): BFI-level 1

Scopus rating (2016): SJR 0.315 SNIP 0.447 CiteScore 0.65

Web of Science (2016): Indexed yes

BFI (2015): BFI-level 1

Scopus rating (2015): SJR 0.276 SNIP 0.337 CiteScore 0.49

BFI (2014): BFI-level 1

Scopus rating (2014): SJR 0.321 SNIP 0.554 CiteScore 0.75

BFI (2013): BFI-level 1

Scopus rating (2013): SJR 0.416 SNIP 0.541 CiteScore 1.03

BFI (2012): BFI-level 1

Scopus rating (2012): SJR 0.397 SNIP 0.494 CiteScore 0.79

BFI (2011): BFI-level 1

Scopus rating (2011): SJR 0.366 SNIP 0.564 CiteScore 0.75

BFI (2010): BFI-level 1

Scopus rating (2010): SJR 0.446 SNIP 0.743

BFI (2009): BFI-level 1

Scopus rating (2009): SJR 0.349 SNIP 0.61

BFI (2008): BFI-level 1

Scopus rating (2008): SJR 0.391 SNIP 0.705

Scopus rating (2007): SJR 0.467 SNIP 0.712

Scopus rating (2006): SJR 0.23 SNIP 0.369

Scopus rating (2005): SJR 0.161 SNIP 0.407

Scopus rating (2004): SJR 0.123 SNIP 0.355

Scopus rating (2003): SJR 0.174 SNIP 0.26

Scopus rating (2002): SJR 0.181 SNIP 0.379

Scopus rating (2001): SJR 0.243 SNIP 0.221

Scopus rating (2000): SJR 0.264 SNIP 0.63

Scopus rating (1999): SJR 0.203 SNIP 0.638

Original language: English

DOIs:

10.1017/S1479262115000362

