Data Article

Bran data of total flavonoid and total phenolic contents, oxygen radical absorbance capacity, and profiles of proanthocyanidins and whole grain physical traits of 32 red and purple rice varieties ☆

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A R T I C L E   I N F O

A B S T R A C T

Phytochemicals in red and purple bran rice have potential health benefit to humans. We determined the phytochemicals in brans of 32 red and purple global rice varieties. The description of the origin and physical traits of the whole grain (color, length, width, thickness and 100-kernel weight) of this germplasm collection are provided along with data of total flavonoid and total phenolic contents, oxygen radical absorbance capacity and total proanthocyanidin contents. The contents and proportions of individual oligomers, from degree of polymerization of monomers to 14-mers, and polymers in bran of these 32 rice varieties are presented (DOI: http://dx.doi.org/10.1016/j.foodchem.2016.04.004) [1].
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Specifications table

Subject area	Chemistry
More specific subject area	Phytochemicals
Type of data	Table
How data was acquired	Total flavonoid and total phenolic contents were determined using colorimetric methods. Profiling of proanthocyanidins and total proanthocyanidin content were determined using HPLC-fluorescence detection. Color of whole grain was measured in the CIE L*a*b* color space using a colorimeter. Length and width of whole grain rice were determined using an image analysis system. Thickness of whole grain was measured with a Digimatic indicator.
Data format	Analyzed
Experimental factors	Phytochemicals were determined in bran after solvent extraction.
Experimental features	The extractable total flavonoid and total phenolic contents, antiradical capacity, and oligomers and polymers of proanthocyanidins in bran of red and purple rice were determined.
Data source location	Beaumont, TX, USA
Data accessibility	The data are with this article.

Value of the data

- A large collection of globally diverse germplasm was selected for the phytochemical analysis of red and purple rice bran. Our data has the widest range of proanthocyanidins concentration reported in red rice bran thus far. These rice genotypes can be used to study genetics that control the synthesis of proanthocyanidins.
- First report of the contents and proportions of oligomers and polymers of proanthocyanidins in rice bran using HPLC-fluorescence detection.
- Genotypes differed significantly for phytochemicals found in the bran layer, indicating variation in the biosynthesis of these compounds. The colorimeter may be used to predict presence of some phytochemical in whole grain rice during varietal development.
- Genotypes were identified that have different phenolic profiles. They will be suitable for further study of the potential health benefits of these particular profiles.

1. Data

A detailed description of this germplasm collection (28 red and 4 purple bran rice varieties) is provided in Table 1, which includes the global origin and whole grain physical traits. Data in Table 2 includes the contents of total flavonoid, total phenolic, and total proanthocyanidins, along with oxygen radical absorbance capacity (ORAC). Data in Table 3 presents the content of individual oligomers (degree of polymerization of monomer to 14-mer) and polymers of proanthocyanidins. Table 4 provides data of the proportions of individual oligomers and polymers of proanthocyanidins.

2. Experimental design, materials and methods

2.1. Rice varieties and physical traits

The 32 rice varieties were obtained from the USDA National Small Grain Collection. The origin, accession numbers, and visual bran color of these 32 varieties are provided in Table 1. The rice