BRISC Lab Curriculum Resources

Black Representation in the Science/STEAM Curriculum

TITLE: DATA CARDS SAMPLE CREATED FROM LOST CROPS OF AFRICA (NRC, 1996, 2006, 2008)

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Dr. Catherine L Quinlan, Ed.D.
Associate Professor of Science Education
Department of Curriculum and Instruction

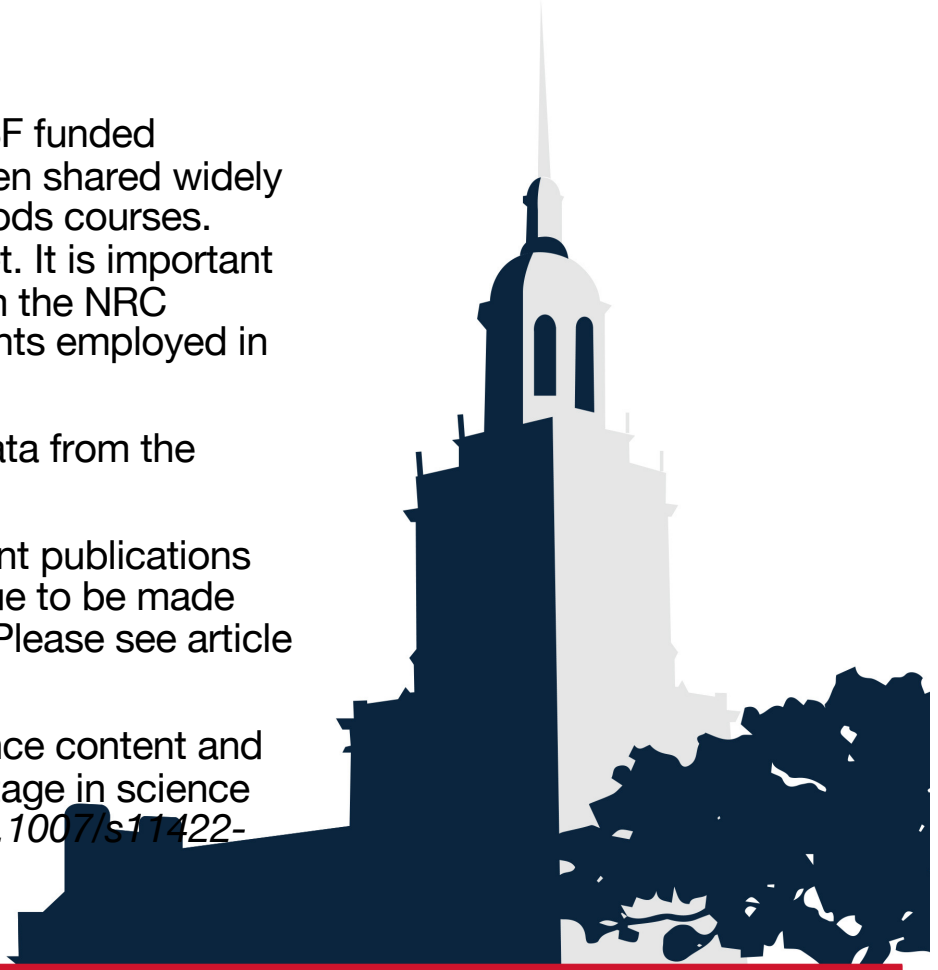
Introduction

This resource shares the data cards created as part of the NSF funded research project award no. 1928832. The data cards have been shared widely over the years in conference presentations and science methods courses. However, this resource only includes a small sample of the set. It is important to note that some of the cards quote sentences verbatim from the NRC reports. Data cards have been prepared with help from students employed in this project.

Permission was sought and granted to use the images and data from the reports for educational purposes and for research.

This sample is being shared here to provide insights into recent publications under review or in press. The full set of data cards will continue to be made available during training/professional development sessions. Please see article currently in press.

Quinlan, C. L. (In press, 2023). Framing and determining science content and standards for cultural representation of African American heritage in science content knowledge. *Culture Studies of Science Education. 10.1007/s11422-023-10195-y*



Lost Grains of Africa (Sample)

Source: National Research Council, 1996. Lost Crops of Africa: Volume I: Grains. Washington, DC: The National Academies Press.

African Rice and

What observations can you make about the nutrient content of African rice?
How does African rice compare with the White rice we eat daily?

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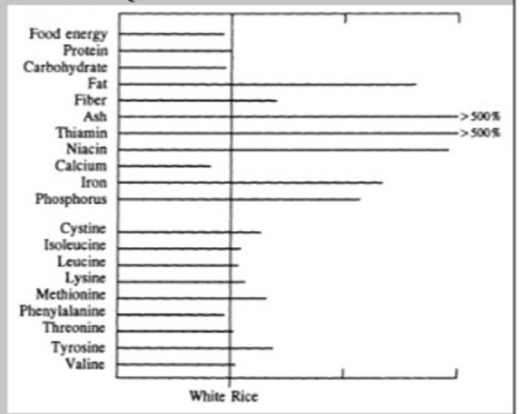
AFRICAN RICE 27

NUTRITIONAL PROMISE

Main Components	Essential Amino Acids		
Moisture (g)	5	Cystine	2.6
Food energy (Kc)	358	Isoleucine	4.7
Protein (g)	7.6	Leucine	8.8
Carbohydrate (g)	81	Lysine	4.1
Fat (g)	1.9	Methionine	3.1
Fiber (g)	0.5	Phenylalanine	5.1
Ash (g)	3.8	Threonine	3.7
Thiamin (mg)	0.39	Tyrosine	4.6
Niacin (mg)	5.0	Valine	6.4
Calcium (mg)	25		
Iron (mg)	2.0		
Phosphorus (mg)	263		

COMPARATIVE QUALITY



A glance at this chart shows that whole-grain African rice is at least as rich as white (i.e., Asian) rice in most nutrients. In some vitamins and minerals it is far superior.

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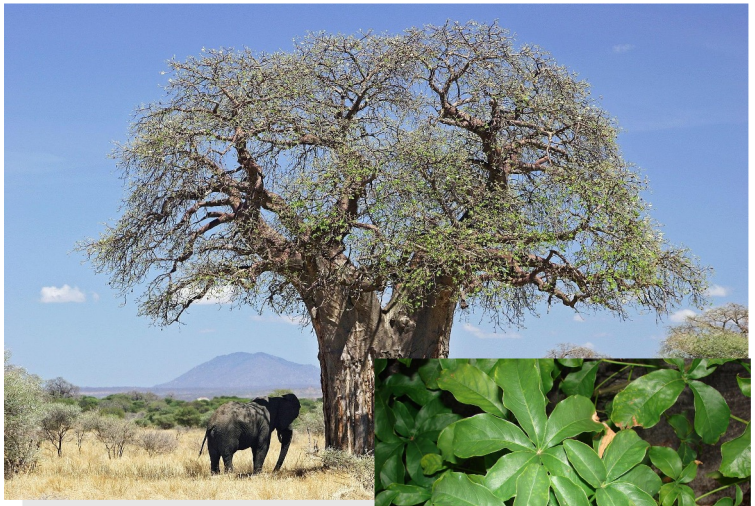
Source of images: National Research Council 1996. Lost Crops of Africa: Volume I: Grains. Washington, DC: The National Academies Press. https://doi.org/10.17226/2305.

Lost Vegetables of Africa (Sample)

Source: National Research Council, 2006. Lost Crops of Africa: Volume II: Vegetables. Washington, DC: The National Academies Press.



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"Lost Crop" images are labeled.

IMAGES FROM MICROSOFT POWERPOINT & OTHER CC OR UNCREDITED SOURCES

Celosia leaves: image from lost crops

Image source: lost crops

Bambara beans

Native Potatoes

- “The literature has so far provided few nutritional details from which to draw conclusions. One early report recorded a S. rotundifolius tuber sample as being 76 percent moisture. Its dry matter consisted of 91 percent carbohydrate, 5 percent crude protein, 4 percent fiber, 4 percent ash, and 1 percent fat. The nutritional energy was 392 calories per 100g.8 Recent studies on the nutritional value of P. esculentus in South Africa recorded (on a dry-weight basis): 81 percent carbohydrate, 13.5 percent crude protein, 4 percent ash, and 1 percent fat. In addition, the tuber material contained (in mg per 100g of plant material): vitamin A (0.2), thiamin (0.04), riboflavin (0.06), vitamin B-6 (0.3), phosphorus (337), potassium (1,721), calcium (140), magnesium (327), zinc (3.5), copper (1), manganese (1.4), sodium (73), and iron (50).9 (Lost Crops II, p. 275-276)

National Research Council, 2006. Lost Crops of Africa: Volume II: Vegetables. Washington, DC: The National Academies Press.

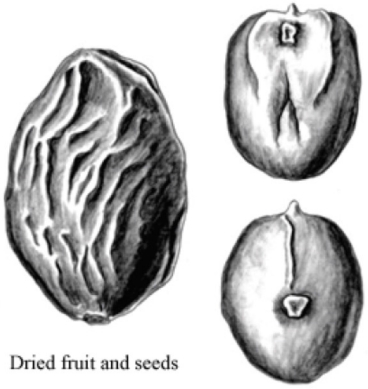
Lost Fruits of Africa (Sample)

Source: National Research Council, 2008. Lost Crops of Africa: Volume III: Fruits. Washington, DC: The National Academies Press.

Gumvines

Landolphia lanceolata photographed beside a highway in western Congo (D.R. Congo). Boys peddling clusters of gumvine fruits are a common sight across West and Central Africa. The fruits are sweet, juicy, and can provide good provitamin A. Of all Central Africa's fruits these are the ones most commonly offered in markets and along the roadsides. This popular food remains a wild resource, but it holds much promise to help rural peoples produce highly salable products in some of the world's most horticulturally challenged regions. (Paul Latham)

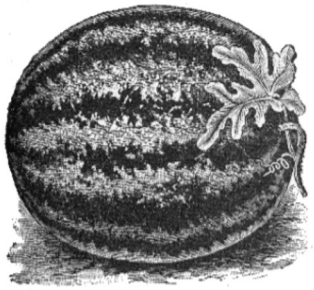
Landolphia capensis



Dried fruit and seeds

National Research Council, 2008. Lost Crops of Africa: Volume III: Fruits. Washington, DC: The National Academies Press.

Melon



MELON

National Research Council, 2008. Lost Crops of Africa: Volume III: Fruits. Washington, DC: The National Academies Press.

Melon

- The edible portion can constitute up to 80 percent of a melon. The flesh contains mostly water (about 90 percent) and carbohydrate**s** (10 percent). The carbohydrate is essentially all sugar. As it grows, the fruit accumulates fructose, glucose, and sucrose.9 Upon ripening, it softens and its fruity, aromatic essences are formed.
- Melons are excellent sources of provitamin A (beta-carotene)—almost as good as mango, with over 3,000 International Units (170 RAE) per 100 grams fresh edible portion. Not unexpectedly, yellow and orange-fleshed melons are the best sources. As to vitamin C, the type known in the United States as cantaloupe contains about 45 mg and honeydew 32 mg per 100 g edible portion, making them a good source of that vitamin as well. Levels of potassium can also be high but highly variable, averaging about 265 mg per 100 g of fresh flesh.
- The seeds are good sources of energy and protein. The kernel contains approximately 46 percent oil and 36 percent protein (Lost Crops III, p.140).”

National Research Council, 2008. Lost Crops of Africa: Volume III: Fruits. Washington, DC: The National Academies Press.

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HOWARD
UNIVERSITY

The End