Grain quality and preliminary cooking assessment of wild harvested native *Oryza* species from the Northern Territory

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Introduction

Australian native rice (*Oryza meridionalis, O. rufipogon*) is an abundant and widespread resource that grows on monsoonal floodplains across the north of Australia (Fig. 1). As a food resource it has been harvested and consumed by Indigenous people for thousands of years.

Native rice collected from the wild may provide an opportunity for a new food industry due to its nutritional and cooking qualities. Adelaide River Traditional Owners, Aboriginal Bush Traders and Charles Darwin University have collaborated to produce culturally-labelled wild rice products for the tourism and niche gourmet food markets.

This product will benefit local communities with access to wild rice grains, by complementing a growing portfolio of wild food and tourism related products from northern Australia.

Fig. 1. Wild *Oryza* species at anthesis on the NT floodplains

Fig. 2. Collecting wild rice in an airboat (left). Harvested rice drying (centre). The processed wild rice grains (right).

Research goals

- To support Indigenous communities to develop a culturally identified, wild harvest product for local community benefit.
- Improve processing efficiency to establish a local bush food industry.

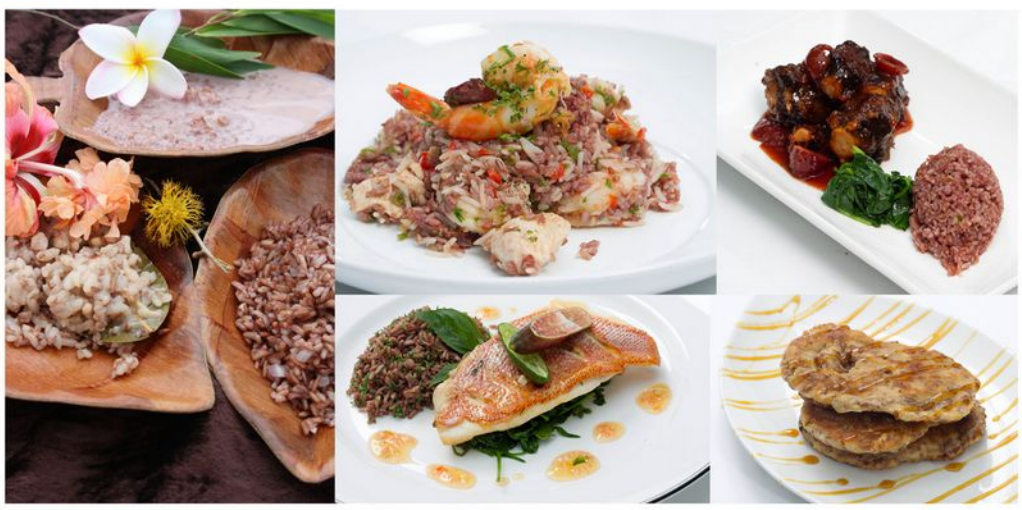

Fig. 3. Dishes created using Australian wild rice including (left) a risotto, fried rice and sweet wild rice and coconut cream, (above) wild rice with native foods, and (lower right) wild rice pancakes.

Table 1. Data for grain mineral (mg kg^{-1}) and protein (%) content for pooled samples of *O. meridionalis*, *O. rufipogon* and *O. sativa*. Data for native rices are for pooled samples collected at Fogg Dam and Beatrice Hill by CDU.

Species	Fe	Mn	B	Cu	Zn	Ca	Mg	Na	K	P	S	Protein
O. meridionalis	17	18	1	1	31	122	1616	9	2463	3663	1210	10
O. rufipogon	14	24	1	2	29	147	1143	11	2150	2850	1018	10
O. sativa#	11	38	1	3	17	91	1090	26	2850	2770	1000	7

Data for *O. sativa*, from a large number of pooled samples, supplied by P. Williams, SunRice Pty Ltd, NSW.

Key results

- Substantial quantities of Australian native rice grains can be harvested from wild stands and processed (Fig. 2). Cracking of grains is an issue.
- The rice grains have high protein contents (protein content 10% for native rice while 7% for commercial rice (Table 1).
- Wild rice grains have a potentially appealing colour, adding visual qualities to prepared food (Fig. 3). The cooked grains have a roasted nutty aroma, delicious flavour and subtle firm texture on the palate.
- It is suitable for risotto, a decorative addition to sushi, or can be mixed with *O. sativa* as a rice base for barramundi, prawns and magpie goose.

Pilot market testing surveys indicated interest in the purchase of wholesale grains from Darwin restaurants. Retail sales of culturally packaged grain samples were desired by tourists and bush product traders.

However, a lack of appropriate specialist milling technology is a barrier to the efficient production of sufficient volumes of cleaned wild rice grains at a suitable price.

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