



BAMBARA SYMPOSIUM

SUSTAINABLE AGRICULTURE FOR FOOD RESILIENCE

SUSTAINABLE DEVELOPMENT GOALS





**End hunger, achieve
food security and
improved nutrition
and promote
sustainable agriculture**

INTERNATIONAL SEMINAR

SUSTAINABLE AGRICULTURE FOR FOOD RESILIENCE



ZERO HUNGER CHALLENGE

ALL FOOD SYSTEMS ARE SUSTAINABLE: FROM PRODUCTION TO CONSUMPTION

AN END TO RURAL POVERTY: DOUBLE SMALL-SCALE PRODUCER INCOMES & PRODUCTIVITY

ADAPT ALL FOOD SYSTEMS TO ELIMINATE LOSS OR WASTE OF FOOD

ACCESS ADEQUATE FOOD AND HEALTHY DIETS, FOR ALL PEOPLE, ALL YEAR ROUND

AN END TO MALNUTRITION IN ALL ITS FORMS

— TRANSFORMING OUR FOOD SYSTEMS TO TRANSFORM OUR WORLD —

ZEROHUNGERCHALLENGE.ORG



INTERNATIONAL SEMINAR
SUSTAINABLE AGRICULTURE FOR FOOD RESILIENCE



BAMBARA GROUNDNUT
(*Vigna subterranea* (L.) Verdcourt)
as a FUTURE CROP

ENDAH SRI REDJEKI

BAMBARA GROUNDNUT RESEARCH CENTRE
UNIV MUHAMMADIYAH GRESIK



WHAT IS BAMBARA GROUNDNUT (BG) ?

- BG is a future crop, it is well adapted in dry to marginal land (Brink, 1997; Collinson *et al.*, 1997; Massawe *et al.*, 2003; Mwale *et al.*, 2007) and low input (Ntundu *et al.*, 2006).
- BG is better than peanut for drought tolerance (Brink *et al.*, 2006). It needs RH 50-60% (Laari, *et al.*, 2012).
- BG has a high market price, 3x expensive compare to peanut.

WHY BG ?

Nutrition content of BG:

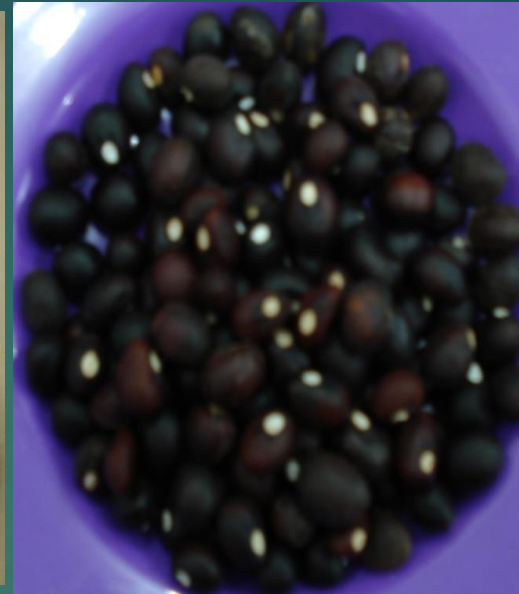
Carbohydrate 59.93%, protein 20.75 %, fat 5.88 %, water 10.43 %, and ash 3.03 % (Hidayah *et al.*, 2005).

BG contents 1% oil, therefore BG is not rancid

Most of unsaturated fatty acid contains *palmitoleic, oleic, linoleic and caprylic* which are very important for human body, especially the body can't produce them *in-vivo* (Okonkwo and Opara, 2010)

All part of BG can be used as zero-waste crop.

BG has total calorie higher than pigeon pea, lentil and cowpea (FAO, 1982).



WHERE ?

In **INDONESIA**, the BG used to plant in the West Java and East Java. The maximum yield is depend on cultivation level, more less 4ton/ ha of fresh pods.

WHEN ?

BG farmers used to start planting when the rainfall coming. Therefore, farmers plant the BG once per year. However, if we can supply water during dry season, then we can plant along year.

HOW TO CULTIVATE BG

Seed require (kg/ha) : 50-75 kg/ha
Seed number/hole : 1-2 seeds
Planting distance : 50 x 25 cm
Drainage : 30 x 50 cm

Soil management : depend on machine used

Seed preparation : soaking the seeds into parazon 10% for 5 minutes to remove spores and many kind of insect eggs, rinse the seeds into tub-water

Planting : seeds is sowed into 5 cm depth accompany Furadan 3 D (nematicide). Watering is a must during germination and vegetative phase.

After 7-10 days after sowing, the seeds will be germinated.

The flowers will come up after 32-45 DAS.

Earthing up is needed to hide the pods from mouse. Harvesting indicator will be appeared when the pods hard, leaves yellowing and around 120 days after sowing.

Yield potency of fresh pod 4 ton/ha.





7

presentation title
20XX

HARVESTING TIME

(consumption and seeds)

- ▶ manually
- ▶ Using a small hoe (cangkul kecil)
- ▶ Grab by hands



BAMBARA GROUNDNUT AS ZERO WASTE CROP

BG USES

1. Porridge
2. Vegetable milk (fresh milk; milk powder)
3. Snack with different flavor
4. Roasted snack
5. Flour for biscuit, brownies, cookies, bakpia.
6. Fish/chicken feed
7. Tempe, condiments
9. Outer skin of seed can be used as anti impotency
10. Bambara Noodle
11. Bambara Sauce

Bambara leaves can be used as herbal medicine, green fertilizer, and biopesticide



bambara Food Festival
Everything 13K

d. Selasa 07/07/20. Jam 14.00
ambilan order: Rabu, 8 Juli 2020 di Outlet KWU- Faperta-UMG
a Produk Unggulan

Nugget Bambara
Brownies Bambara
Bambara Mie A
Opak Jepit Bambara
Mendol Bambara
Bambara Choco

5733305567 Amin
1225591398 Silvi

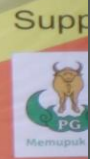
20XX



INTERNATIONAL FIELD WORKSHOP

"Empowering Bambara Groundnut Farmers for Sustainable Agriculture and Food Security"

Gresik , April 12th 2017





Thank you

Bambara Groundnut Research Centre (BGRC)
University of Muhammadiyah Gresik
Jl Sumatra 101 Gresik Kota Baru, GKB, Gresik, 61121
bgrc@umg.ac.id /+6282230802320