4. Weed Management

- Weeds are controlled most effectively by the use of an integrated programme combining different control methods**.**
- Good weed management practice includes: cleaning of machinery and implements; good land preparation; choice of variety (traits: excellent early vigor, good tillering ability, early canopy); appropriate seed rate; field sanitation; fertilizer application.
- Water management is crucial for managing weeds in rice. Maintain 3-4 inches of water throughout the crop.
- Chemical control: weed control must be undertaken early. Herbicide application around 14-18 DAS is best recommended so that it can facilitate fertilizer application and subsequent irrigation. Some herbicide recommended are Nominee, Nomeny, Rice Weed Killer, Designee. Drain fields for effective herbicide application, then flood after 24-48 hours.

5. Nutrient Management

- Fertilizer recommendation must be based on a chemical soil analysis.
- The following Fertilizer Combination were found very effective:
  - Triple Super Phosphate (TSP): 50-75 lbs per acre (56-84 kg/ha)
  - Murate of Potash (MOP): : 50-75 lbs per acre (56-84 kg/ ha)

  NB: TSP and MOP can be incorporated dry at land prep or broadcast at 14-21 DAS
  - Urea: 1.5-2 bags/acre185-247 kg/ha. It can be split in three application timings: 14-21, 40-42 and 60 DAS in proportions of 25, 50 and 25 % respectively

  The third dose fertilizer will depend on the crop health (greenness, height etc)
- Urea must be applied in field with reduce or low water content
- Application of fertilizer must be done after weeds are managed.

6. Pest and Disease Management:

Insect Pest

- An Integrated Pest Management (IPM) approach is recommended to effectively manage insect pest populations.
- IPM includes: good land preparation, block planting, field sanitation, water management, rouging, regular monitoring, judicious use of chemicals.
- Some effective chemicals against early season pest and Paddy Bug *(Oebalus poecilus)* : Contact (Fastac, Ninja, Flip); Systematic (Pronto, Admire, Admister)

7. Diseases:

This variety is resistant to rice blast disease (*Pyricularia grisea*) and tolerant to Brown Spots (*Bipolaris oryzae, Cochilobolus miyabeans).* It is important to have an Integrated Disease Management (IDM) approach to manage rice disease, particularly Brown Spots. Some useful tips: sow within the season; use recommended seed rates, avoid excess nitrogen fertilizer, use Potash (K) fertilizer, control alternative host, avoid water stress, good sanitation practices. Recommended chemicals: Fugi-one. Stratego, Carbendazim, Manzate, Super Blast, have also shown promising results.

8. Harvesting

Drain fields between 90-95 days after sowing.
Harvest at 18 - 20 % moisture for best milling recoveries, germination and vigour.
Reduce grain moisture to less than 16% within 24 hours.
Where controlled drying is not possible harvest at moisture content less than 16%.

Breeder's Remarks:

This rice genotype possess excellent early vigour, very good tillering ability and also canopies very early. It also has the ability to emerge well from 4-6 inches of standing water in field. These traits are particularly important for good crop establishment and weed competitiveness.
The strong and thick culm (stem) coupled with slow leaf senescence contribute positively to its ability to tolerate lodging and grain filling. It is better able to tolerate lodging as compared to the GRDB 10.
The long panicles with highly fertile grains (approx. 200 grains per panicle), yields approximately 38-48 bags/acre. It respond very well to improved management practice and has the genetic potential to produce even higher yields.
This variety have produced yield similar to that of GRDB 10.
It has also demonstrated excellent milling and cooking qualities which makes them desirable for the local and international market.

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BURMA RICE RESEARCH STATION

New Variety of Rice For Commercial Cultivation in Guyana

"GRDB 14"

Subject to Periodic Revision

CHARACTERS OF NEWLY RELEASED VARIETIES CURRENTLY GROWN

Characters	"GRDB 14" (FG06-123)
Seedling Vegetative Vigour(Vg)	Vigorous
Tillering Ability (Ti)	Medium(10-19)
Culm Strength (Cs)	Strong
Lodging Incidence (Lg)	0-10 (%)
Plant Height (Ht)	Semi dwarf (100-110 cm)
Leaf Senescence (Sen)	Late and slow
Panicle Exertion (Exs)	Well exerted
Panicle Treshability (PT)	Easy
Spikelet Fertility (SpFert)	Highly fertile (>90%)
Phenotypic Acceptability (PAcp)	Excellent
Awning (An)	Awnless
Stigma colour (SgC)	White
Lemma and Palea colour (MPC) [Grain Colour]	Straw
Days to complete Flowering	78-85
Dormancy (Days)	25
Maturity (Mat)	115-120
Grain Yield (bag/ac, t/ha)	38-48 bags/ac
Disease Reaction	
Blast (*Pyriculariagrisea*)	Resistant
Brownspot (*Cochliobolusmiyabeanus* (*Bipolarisoryzae, Drechsleraoryzae*).	Tolerant
Sheath Blight (*Thanethoporuscucumeris* (*Rhizoctoniasolani*)	Tolerant
Sheath Rot (*Soracladiumoryzae*)	Tolerant
Grain	
Grain Length (GrL)	9.9 (mm)
Grain Width (GrW)	2.3 (mm)
Grain Shape (GrS)	Long, slender
Brown Rice Length (BrLn)	7.7 (mm)
Brown Rice Width (BrW	2.1 (mm)
Brown Rice Shape (BrS)	Ex. Long, slender
1000 Grain Weight(GW) (g)	29.4 (%)
Chalkiness (Clk) (%)	0.2 (%)
Head Rice Recovery (HRR)- Paddy	50.75 (%)
Total Rice Recovery (TRR)- Paddy	66.50 (%)
Head Rice Recovery (HRR)- Brown	54.9 (%)
Total Rice Recovery (TRR)- Brown	83.3 (%)
Grain Expansion- Length (GEL)	72.6 (%)
Grain Expansion- Width (GEW)	72.4 (%)

2. Crop Establishment

i. Seed and Seed Rate

- Certified seeds where possible.
- On fairly level and uniform fields sow only 100-120 lbs/ac (112.2-134.7 kg/ha) clean seeds.
- Under less favorable conditions (uneven land, unclean seeds, etc.), the seed rate can be increased up to 140 lbs/ ac (157.2kg/ha).
- Do not use muddy or stagnant water when soaking seed.
- Soak seeds for 24 to 30 hrs. At the end of the soaking period remove/drain off excess water.
- Incubate (*press*) seeds for 36-48 hrs, when broadcasting by hand. 24 hrs will be sufficient if broadcasting is to be done by aircraft.
- Light wetting (watering) may be necessary during incubation.

ii. Synchrony of Sowing

It is critical to sow within the sowing season. Sowing must be completed within Nov-Dec (for the first crop) and 15th May-15th July)for second crop.

All attempts must be made for farmers in an area to sow together (block planting).

iii. Seed Treatment

Seeds can be treated with products such as Crusier, Regent, Friponil, Flip, which will reduce the infestation of water weevil and leaf miner.

3. Water Management

- Retain water used for puddling operation to grow rice crop. Allow 2 to 3 days for suspended sediments to settle before the germinated seeds are sown.
- Drain fields 2-3 days after sowing. Fields can then be flooded 6 to 7 days after draining.
- Grow the crop through flooded conditions of 3 to 4" (7.5 to 10 cm) if your field has a history of weed (red rice and grasses) problems.
- Ideally water should be completely drained for the application of fertilizers or post emergence herbicide
- Maintain adequate water level (3 to 4" or 7.5 to 10 cm) until around 90-95 days after seeding. Then drain the field completely.