



DOING
BUSINESS
WITH



Rice

A PRODUCTION
HANDBOOK

FOR FARMERS



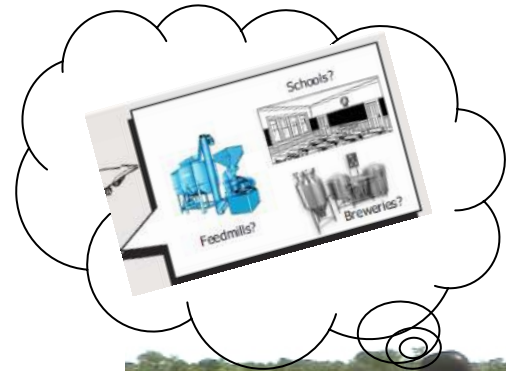
DISCLAIMER

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Start with who you will sell to

The first consideration in every successful farming business is to know all the requirements of your Buyer

For the best price and assured sale, grow your rice only when you know what types, quantities and qualities your Buyer(s) want.



Know your costs



Understand your production & harvesting expenses. Decide what level of inputs to use on your farm, and what size land to farm. Enter the items costs into a crop budget and know your profit margins.

Costs of renting land, water user fees, plowing, rotation, improved seed, labor for; transplanting, fertilizer application, weeding, harvesting, threshing, winnowing, bagging and transportation, are some of the major cost items in commercial rice production that you must know.

Prepare a Supply Contract



Written and signed agreements, (*sometimes called Supply Contracts*), ensure that Buyers and Sellers know - and can be reminded of - their commitments towards each other

The Buyer and your Outgrowers are the most important persons in the success of your business. Ensure that you build trust in your relations with them by working hard to abide by the agreed terms and conditions of all agreements with them.

Seek and maintain good working relationships



- For good working relationships;
- Keep your Buyers informed of your farming activity plans, stage of growth of your crop and dates for key actions such as harvesting probable volumes and sales.
- Attend all planned meetings with Buyers to discuss production, sales and review of results. Visit and keep your Outgrowers well informed on discussions with your end markets.

Use the latest ideas, knowledge and skills of cultivation for higher profit



The System for Rice Intensification (SRI) for cultivating rice is known to be profitable because it:

- uses fewer seeds, (saves more than 80% seeds used)
- uses less irrigation water,
- uses very little or no fertilizer and
- uses cost - saving labor practices, (such as row spacing which allows easy detection of weeds and faster weeding with rotary weeder or manual hand - picking)
- but it requires good planning, organizing labor for transplanting rice, and regular weeding.

The Agricultural extension agent in your areas can train you on the SRI Technique to produce HEALTHY growing plants.

Prepare your farmland well



A well prepared land makes farm operations like transplanting, weeding, drainage of water etc. easier.

When using SRI, land preparation should include:

- 📍 spreading of organic manure to fertilize your land prior to plowing, (spread 10 - 15tons, of organic manure on a hectare of soil.) If organic manure is not readily available, see your extension agent for available options
- 📍 plowing one month before transplanting the seedlings
- 📍 rotovating and leveling soil to allow even distribution and complete drainage of irrigation water before transplanting.

Use good quality seed of highly demanded varieties



The variety of rice that you grow should be the preferred one of your Buyers in order to sell more at a good price.

Sort your seed stock for good quality seed by:

- 📍 Soaking in warm water for 12 hours, (preferably overnight).
- 📍 Removing and throwing away grain that floats, (in the morning), because they are empty.
- 📍 Nursing good pre-germinated seeds immediately.
- 📍 Nursing only those seeds that settled at the bottom of the container during your sorting process.

Choose a good site for your seedling nursery



Water is very essential for nurseries. set up your nursery close to a reliable source of water. Your nursery should be close to the farm.

HOW TO NURSE YOUR RICE SEED

- 📍 Make a seedling nursery bed of dimensions 1metre wide and 4-10 metres long with wooden planks or nursery trays. If your nursery is 10 metres long, you will need 10 such settings, (100 square metres), to make enough seedlings to plant 1 hectare.
- 📍 Water your nursery bed with a watering can and rake gently to loosen the top soil.
- 📍 Spread your good seed thinly on the leveled nursery bed and cover lightly with more soil.
- 📍 Hit the surface gently with your palm or a shovel to firm up.
- 📍 If the weather is hot, cover lightly with straw. Remember to remove this straw gradually from the second to fifth day when germination starts.
- 📍 Water your nursery twice daily, (in the morning and evening), with a watering can.

Transplant only strong and healthy seedlings

To Transplant;

- ☞ Mark both ends of the plot on the same side and attach a string that has knots or color markings to identify the spacing. (You may also use a marker to identify points to transplant).
- ☞ Mark points for transplants (the recommended plant spacing for many good varieties of rice is 25cm between rows and 25cm within rows).
- ☞ Transplant in muddy and sticky soil (avoid surfaces with running water).
- ☞ Take seedlings for transplanting with a ball of earth attached. This helps in recovery within 24 hours.
- ☞ Slide seedlings into the muddy field in the form of the letter "L".
- ☞ Irrigate lightly after transplanting to maintain humidity during the first two weeks.
- ☞ Observe and replace weak/dead seedlings after transplanting.



Transplanting begins when most seedlings at the Nursery have two leaves, (10 - 12 days after sowing).

Water your rice field well



Leaving standing water on rice fields is NOT advisable in SRI.

WATERING

- 📍 In SRI, watering is alternated with drying out of the soil to help in strong root development and branching, (tiller formation), of the plants.
- 📍 Start watering your rice field, 2 weeks after transplanting.
- 📍 When watering, introduce water to cover the surface of your soil to a depth of 2cm, then stop and allow the soil to dry out until it "asks" for water again (when breakage lines appear)
- 📍 When the plants start to flower, maintain a light 2-3cm deep stream of water on the field.

Remove weeds at all times

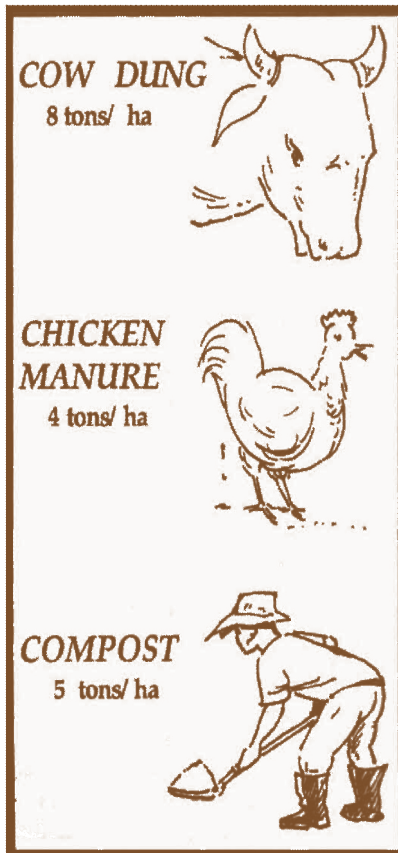


Timely and regular weeding is essential in SRI because there is no/little water to suppress weeds as in the more common planting practices.

Hand-pull weeds 1-2 weeks after transplanting when the transplants are weak and weeds are close to the crop. Subsequent weeding may be done with a rotary-weeder, a hoe or by hand-pulling again.

Selective weedicides may also be used. When using weedicides apply carefully according to the instructions on the label. Wear the appropriate protective clothing for all agrochemical applications.

Apply appropriate fertilizers only



In SRI, inorganic fertilizer is applied only to correct known or observed nutritional deficiencies to your rice crop. If necessary, the Agricultural Extension Office nearest to you will tell you the recommended type of inorganic fertilizer to use.

Mix cow- dung, chicken manure and other organic fertilizers, well into the soil and wait for at least 1 week before planting your rice.

Harvest matured rice on time



Rice is matured and ready for harvest when any of these conditions occur:

- ⬠ Grain moisture content is between 20 and 25% (wet basis).
- ⬠ 80—85% of the grains are straw (i.e., yellow-colored).
- ⬠ The number of days after sowing is 130 and 136 for late, 113 and 125 for medium, and 110 days for early-maturing varieties.
- ⬠ 28 to 35 days after heading for dry season harvesting and,
- ⬠ 32 to 38 days after heading for wet season harvest,

**To avoid re-wetting and to reduce grain breakage, time your harvesting so that threshing can be done as soon as possible after cutting .
Keep your harvest on a tarpaulin spread on raised ground or any such cleaned and dry surface at all times.**



Prepare paddy well for a more effective storage



Before storing:

- 📍 Thresh your rice with a good thresher or combine harvester
- 📍 Dry grain to moisture levels of 13% or less before bagging
- 📍 Winnow to remove chaff and other foreign matter
- 📍 Store in bags without holes and sealed tightly to prevent entry of insects



Store in a safe and clean warehouse



- ◆ Check and seal all roofing and wall leaks to prevent water leaks into the store room or warehouse.
- ◆ Seal/close all holes in walls to prevent insects, bats and rodent entry.
- ◆ Stack bags on pallets, not directly on the floor.
- ◆ Clean up spilled grain in stores immediately.
- ◆ Do not keep insecticides, brooms, work clothing or infested grain in your warehouse.
- ◆ Inspect the store regularly for signs of infestation.
- ◆ Cover all window openings with a mesh and close them tightly.
- ◆ Keep the surroundings of your warehouse clean of weeds.

It is widely believed that up to ONE - THIRD of produce is lost after harvesting. Help to stop this wastage.

Sell profitably but honestly



Avoid the temptation to cheat on agreed quantities and prices to Buyers who have supported you in farming, when prices go up on the market. **HONESTY** and trust building should be important policies in your business.

- 📍 Use good weighing scales and moisture meters to measure out the agreed weights and moisture contents of paddy rice for your Buyer.
- 📍 Sell the oldest stocks in your warehouse first.
- 📍 Stay abreast with current prices of rice at markets nearest to you to arrive at the best deals. You may use the Esoko
- 📍 Mobile phone services for updates on these prices.
- 📍 Discuss worrying market changes with Buyers and Outgrowers who have signed Supply Contracts with you.

Summary

For good business in rice farming, REMEMBER to:

1. Start with who you will sell to.
2. Know the costs and availability of key inputs.
3. Prepare a Supply Contract with your Buyer.
4. Communicate and maintain good working relationships with your Buyer.
5. Prepare your land well for planting.
6. Use innovative cultivation methods like the SRI Technique for maximum yields.
7. Prepare your land well for transplanting.
8. Use high yielding and quality seed obtained from a reliable source.
9. Establish a good nursery to raise healthy seedlings.
10. Transplant strong and healthy seedlings recommended at the spacing.
11. Manage your watering to enable healthy growth of your plants.
12. Control weeds safely, timely and with recommended weedicides only.
13. Apply recommended types of fertilizers on time and in the right quantities.
14. Harvest matured rice on time.
15. Prepare paddy well for effective storage and sale.
16. Store in a well protected room or warehouse to avoid losses, reduce damage or contaminations in storage.
17. Sell profitably but honestly, honor your agreements.

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