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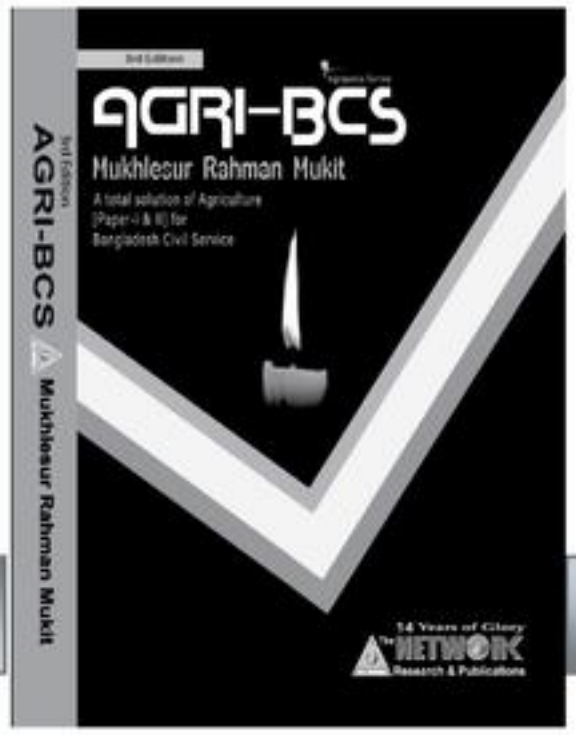

November 2022

A total solution of Agriculture [Paper-I & II] for Bangladesh Civil Service

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By

Mukhlesur Rahman Mukit

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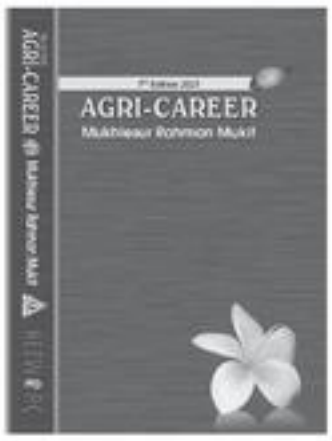

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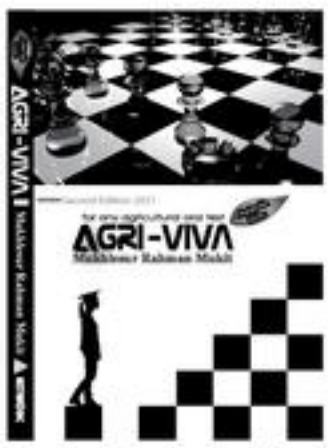

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By the Agriculturist, For the Agriculturist...

CONTENT

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Agriculture

Paper-I

Marks-100

a) Production technology and costing of field crops- rice, wheat, maize, jute, sugarcane, tea, tobacco, lentil, groundnut, soybean and mustard. External morphology and desirable qualities of these crops.

b) Production technology of horticultural crops- Banana, papaya, pineapple, potato, tomato, cabbage, cauliflower, brinjal, onion, garlic and chili. Post-harvest management (e.g. processing and storage) of these crops.

c) Importance of irrigation and drainage for crop production. Merits and demerits of different methods of irrigation. Irrigation seedling in crops. Quality of irrigation water in relation to crop production and soil condition.

d) Crop nutrition and fertilizer management: sources and available forms of plant nutrients, fertilizer and manners, judicious application of fertilizers and organic matters in different agro-ecological zones (AEZ) of Bangladesh. Use of Bio-fertilizers in agriculture and water management utilization of agriculture wastes. Scope and importance of bio energy, and generation of Bio-gas.

e) Major insect pests and diseases of rice, wheat, jute, sugarcane, potato and mango and their control measures.

f) Pesticides - their formulation, mode of action, methods of application residual effects with safety measures. Economic injury level and LD50.Integrated pest management (IPM) - concept, prospects and limitations.

g) The principles and practices of agricultural extension with special emphasis on program planning, transfer of technologies, communication, diffusion and leadership. Importance of rural youth, rural women and landless farmers in agricultural extension and their empowerment.

Agriculture

Paper-II

Marks-100

i) Plant genetic resources (PGR) -diversity of PGR and their conservation methods.

ii) Crop improvement- introduction, selection, hybridization and mutation breeding. Development of hybrid and modern varieties (MVs). Concepts of variety Act and intellectual property right (IPR), seed certification and variety release.

iii) Biotechnology in Agriculture: Tissue culture, genetic engineering. GMO and bio safety regulations-environmental, social, legal and ethical issues.

iv) Plant growth regulators, growth retardants and phytohormones. Ripening chemicals-uses and abuses.

v) Concept and significance of seed viability and seed vigor. Testing seeds for purity, moisture, germination and vigor. Principles of seed crop production.

vi) Weed competition and factors affecting crop-weed competition. Allelopathic effects of weeds on crops and vice-versa. Herbicidal weed control in rice, jute, cotton and sugarcane. Integrated Weed Management (IWM).

vii) Environmental degradation and pollution (soil, water and air pollution)- causes and impact on Bangladesh Agriculture. Management of drought, flood and soil salinity and other current environmental issues.

viii) Concept and scope of agro-forestry, present status of forest resources in Bangladesh, possible improvement of present land use system through sustainable agro-forestry. Multistoried tree production system, hill cultivation-SALT practices and their different models.

ix) Economic importance of fiber, oil, timber, medicine, rubber, narcotic and beverage crop plants and their products. Tapping system, composition and latex coagulation of rubber. Manufacturing process and changes in chemical composition in tea leaves.

QUESTIONS TO BE STUDY

PRODUCTION TECHNOLOGY & COSTING OF FIELD CROPS

Production technology:

- Describe the production technology of boro rice through SRI method./ What is system of rice intensification? Describe rice production by this technology.[34]
- What is yield gap? How can yield gap of Boro rice minimize?[33,34]
- Discuss the problems and prospects of hybrid rice cultivation in Bangladesh. [28,32]
- Describe the production technology of hybrid rice.[21]
- Write down two flood resistant *aman* rice varieties developed by BRRI, one salt tolerant *boro* rice variety and one BINA released salt tolerant *boro* rice variety. [32,40]
- Discuss the cultivation of HYV rice in saline soils of southern areas or in *monga* areas of northern belt of Bangladesh.[29]
- Discuss the problems and solutions of southern agriculture. / What are the steps you consider to be taken for increasing the cropping intensity in the salinity prone areas?[30,33,38]
- What are the main problems of agricultural practices in northern areas of Bangladesh?[33]
- Discuss the role of temperature and light on the growth and development of plant.[21]
- Discuss the major points of production technology of jute to improve the quality and yield of it. / Sequentially describe the technology to grow jute. / Describe agronomical management of jute to increase the quality of fiber. [22,27,31,34]
- Discuss the steps taken by the government to bring back lost glory of jute.[38,40]
- Why jute was called the golden fibre of Bangladesh? Why are framers reluctant to cultivate jute? Write in detail.
- Describe importance of genome sequencing of jute for farmers. [35]
- Write the production technology of either wheat.[27]
- Discuss the production technology of peanut. [36]
- Discuss the production technology of sesame.[36]
- Soybean oil is an essential commodity of everyday life. Why it is not cultivated in large scale inspite of it's bright prospect in Bangladesh? Discuss the problems and remedies of soybean cultivation in Bangladesh. / Describe the problems and prospects of soybean cultivation in coastal belts of Bangladesh.[31,35]
- Discuss about problems and prospects of hybrid varieties in the increase of yield of agricultural crops.[32]

Cost of production:

- Calculate the cost of production of potato in Bangladesh.[37]
- Calculate the cost of production of mustard in Bangladesh.[37]
- Work out the production cost of hybrid maize cultivation in a hectare of land.[29,32,35]
- Work out in tabular form the cultivation cost of jute in one hectare of land and income. / Work out the cost of production of jute per hectare.
- Worked out the production cost of Boro rice (HYV) and Aman rice (HYV) per hectare of land. / Estimate the cost of production of boro rice for one hectare of land in 2012.[28, 32]
- Describe your opinion about the subsidy by government on *Aus* rice for its better production. [32]
- Estimate the cost of production of hybrid maize.[35]
- Write comparative statement of cost of production and benefit of sugarcane production in 1 hectare of land.

PRODUCTION TECHNOLOGY OF HORTICULTURAL CROPS

Production Technology:

- Describe the causes of post-harvest losses of horticultural crop.[40]
- What is floating agriculture? Why this is practiced in some areas of Bangladesh? Write the procedure of Floating agriculture technique?[36]
- Discuss the production technology of mango. [...]
- Discuss the problems and solution of winter vegetable production, marketing and preservation in different regions of Bangladesh.[36]
- Describe the improve method of cultivation of banana.[27,32,37]
- Describe the improve method of cultivation of papaya.[27,31]
- Discuss the technology to grow pineapple in hilly areas. [31]
- Discuss the cultivation procedures of potato.[28]
- Narrate the modern cultivation practice of summer potato.[29]
- Discuss the cultivation procedures of onion.[28,33,34]
- What type of soil is suitable for better production of garlic? [31]
- Narrate the suitable climate for onion cultivation.[31,34]
- Discuss the importance of drainage in papaya cultivation. [
- Discuss the production technology of garlic by zero tillage.[32]
- Discuss the role of day-night temperature in fruit setting of tomato. [33]
- Describe prospects of tissue culture method of potato to increase the supply of seed potato.[34]

- Describe the production technology of summer tomato with its prospects in Bangladesh.
- Mention the causes of success of vegetable production in Bangladesh.
- Write the production technology of strawberry.[35]
- Write the production technology of mushroom.[27,35]
- Mention two varieties of summer tomato. Describe the problems and prospects of summer tomato cultivation.[32,35]
- Some specific crop production is well in some specific region of Bangladesh, e.g. litchi in Dinajpur, mango in Chapainobabgonj. Describe the causes. / Why the following crops are successfully producing in some specific areas? Briefly discuss.[33, 35]
  a. Pineapple in Modhupur
  b. Litchi in Dinajpur
  c. Mango in Rajshahi
  d. Tea in Sylhet
  e. Guava in Sorupkathi
  f. Potato in Munshigonj
- Write down the reasons for producing good quality potato in Panchagarh, Jute in Mymensingh, jackfruit in Madhupur, flowers in Jashore district. [40]

Post harvest management:

- Describe the methods of increasing shelf life of fruit. [34]
- Write proper post harvest management and storage of potato.[27,29]
- Give a brief account of the present situation and scope of improvement of post-harvest storage and processing of mango, pineapple, and litchi.[27]
- Briefly discuss the preparation of various value added products of horticultural crops and mention their export potentials.[27]
- Describe the post harvest management and storage system of banana or mango.[28]
- Describe the post harvest management and storage system of pineapple.[29]
- Describe the cultivation procedure and post-harvest storage technique of onion.[27,30]
- Narrate the post-harvest technology and marketing of tomato. [31]
- Discuss the scope of export of potato from Bangladesh.[32]
- Discuss the scope of tomato production and problems of marketing in Bangladesh.
- List six exportable vegetables of Bangladesh and describe the scope of their export?
- What is physiological maturity and commercial horticultural maturity?[34]
- Mention the maturity index of following crops: potato, carrot, tomato, cabbage, brinjal and water melon.[34]
- In which stages mangos spoil during marketing from Rajshahi to Dhaka?[35]

IRRIGATION & DRAINAGE

- What is meant by leaf water potential? [40]
- Write down the principles of irrigation. [36]
- Write down the role of irrigation water in soil properties.[33]
- Mention the necessity of irrigation and drainage in wheat production.[33]
- What are the different types of pumps used for irrigation in Bangladesh? [31]
- Write the qualities of irrigation water. [20]
- Describe the effect of poor quality irrigation water on soil and crop.[20,34,36,40]
- Why irrigation is needed in Bangladesh even it is a rain-full country? [21]
- Describe the importance of irrigation in modern agriculture. [28,32,34,37]
- Describe irrigation schedule of *boro* rice and sugarcane.[21]
- Elucidate the effects of irrigation water on soil properties and crop production.[27]
- Describe the different methods of irrigation with their merits and demerits.[27,29,30]
- State how can cannel digging be helpful in the implementation of irrigation program.[27]
- Discuss the advantages and disadvantages of underground irrigation in Bangladesh.[28]
- Why crop growth becomes slow and yield is less in flooding stressed land?[30]
- Discuss the importance of fixing the quantity of irrigation based on soil nature.[30]
- What is meant by water management of crop? Discuss the importance of water management for plant growth and yield.[29,30,31]
- Drought and water logging are the barriers of crop production. Name four crops of each condition which give good yield and discuss optimum production practices of any one of them. [31]
- Discuss the importance of drainage in papaya cultivation.
- What are the sources of irrigation water in Bangladesh? [31,35,38]
- What are the major problems of irrigation in south-west region of Bangladesh?[31]
- Discuss the impact of using ground water in the environment of Bangladesh. [32,36]
- Discuss the merits and demerits of supplementary irrigation in Aman rice. [29,32]
- Discuss the processes of economic use of water in irrigation. [32]
- Discuss the role of irrigation and drainage on crop production.
- Which properties should have in drought and saline soil tolerant crop varieties? Discuss in physiological point of view.[33]
- What happens in agriculture & environment if continuous ground water use in irrigation? Describe.[35,38]

CROP NUTRITION & FERTILIZER MANAGEMENT

Fertilizer & Soil:

- What is plant nutrient? [36,38]
- Discuss the importance of organic fertilizer to improve physical, chemical and microbial properties of soil.[30]
- What is organic and inorganic fertilizer? Discuss the residual effect of different fertilizers in soil.[29,32]
- Describe the importance of organic farming for vegetable production.[36]
- Name the chemical fertilizers, produced in Bangladesh with their respective industry of production.[36]
- What chemical fertilizers are used in Bangladesh agriculture? Describe briefly how the effectiveness of urea fertilizer can be increased. [38]
- What is meant by micro-nutrient? Discuss what roles zinc and boron play in increasing crop yield. [38]
- Discuss the role of fertilizer on agricultural land.[20]
- Mention different methods of fertilizer application. [27]
- Write down the names of four kinds of fertilizer along with their chemical formulae. [28]
- Write the measures to be taken to reduce the losses of nitrogenous fertilizer. [20]
- Name major AEZ of Bangladesh and describe nutrient availability in soils and fertilizer use efficiency with a reference to AEZ.[27]
- Why fertilizer dose is different in various AEZs./ Describe the reasons of differences in the dose of chemical fertilizer in the different AEZs of Bangladesh./ Why the fertilizer management is different of same crop in different AEZ?[20,30,34]
- What is balanced fertilizer? Write down its importance in crop production.[21,29,30,33]
- Discuss the ways of increase the efficacy of utilization of fertilizer.[21]
- Discuss about organic matter status of Bangladesh soil. [22]
- Write the ways of increasing the organic matter in soil. [22]
- Discuss the role of organic matter in improving soil productivity and quality crop production. [34]
- Write the disadvantages of using chemical fertilizer. [22]
- Which steps should be taken to reduce the uses of chemical fertilizers?[22]
- Urea is applied in splits but TSP at a time, explain.[27]
- Discuss the role of phosphorus and boron in crop production.[28,38]
- Describe the deficiency symptoms of zinc in rice plants. [31,34,35]
- Discuss the urea super granule (USG) and leaf color chart (LCC) in urea economy.[29]

- Discuss the importance of organic fertilizer for increasing productivity.
- List four green manuring crops which can fix nitrogen from the atmosphere. [31]
- Briefly narrate the importance of green manuring. [31,35]
- What types of changes occur in soil quality due to incorporation of green manure to soil?[35]
- What are the essential nutrients for plants? Discuss the role of essential nutrients in plant growth. [32]
- In which type of field should applied NO_3^-N, and why?[33]
- What is crop nutrient management (CNM). Mention eco-friendly eight CNM technology. [35]
- Write the role of soil colloid on field.[20,22]

Biogas, Bioenergy, Waste:

- Name some agricultural wastes and describe it's importance in Bangladesh agriculture.[21,22]
- How the usages of agricultural waste contribute in national economy? Discuss.[34]
- Discuss the ways of utilization of agricultural waste.[28]
- Discuss the scope of agricultural and kitchen wastes as organic fertilizers.[32]
- What is biofuel and bioenergy? State the sources of bioenergy.[34]
- What is bioenergy? Discuss its importance in the improvement in our economy.[29]
- How is biogas produced? [29]
- Discuss your opinion about the problems and prospects of biogas production in Bangladesh.[29,37]
- Write the advantages of biotechnological process in the management of industrial waste.[32]

INSECT PESTS AND DISEASES

- What are the major insect pests of rice and jute? Mention details the measures to control them.[38]
- List major four insects with scientific name and four major diseases of rice with their causal agents. [27]
- State the scientific name, nature of damage and control measure of rice bug, potato tuber moth and mango fruit weevil.[34]
- Write down the name and scientific name of two insects of each of potato and jute. [28,35]
- List down the names of five major insects of mango in Bangladesh. [30]
- Describe the control measures of fruit damaging insects of mango. [30]

- Write the congenial atmosphere for fruit and shoot borer of brinjal. [30]
- Describe the name, causes and control measures of one main disease of each of rice, jute, sugarcane, and potato.[28]
- Write two major diseases of tomato with their causal organism and control measure.[35]
- Mention two major diseases of mango or rice with their control measures. [32]
- Write down two major diseases of potato and sugarcane mentioning their causal organism, nature of damage and control method. [33]
- Write the name of pathogen, symptoms and control measure of following diseases.[35]
    a. Red rot of sugarcane
    b. Punama of banana
    c. Hollow heart of potato
    d. Soft rot of jackfruit
    e. Hopper insect of mango
    f. Mealy bug of papaya
- Why the organochlorinated insecticides are restricted? Discuss.[34]
- Describe the problems and prospects of IPM technology for safe food production In Bangladesh.[34]
- "IPM is an ideal tool to pest control" -explain.[35]
- Mention five eco-friendly pest management technologies with their advantages.[35]

PESTICIDES

- What is pesticide formulation? Give example of each formulation with their pros and cons./ Describe suspension formulation.[20,22,36]
- What are the different types of pesticides? [31,35,36]
- Describe the mode of action of a pesticide and an insecticide. / What are the kinds of insecticides on the basis of the mode of action? [21,30]
- Narrate the impact of pesticides on the environment. [31]
- Describe the residual effects of common pesticides on crops.[22]
- Write down the names of widely used five each insecticides, fungicides and herbicides.[29,30,37,38]
- Describe the essential protective measures during the spray of insecticides.[21,30]
- What is LD-50? [31]
- What is Biopesticide? Discuss its merits and demerits.[32]

AGRICULTURAL EXTENSION

- Describe the steps in extension program planning.[40]
- What are the issues to which importance should be given for the expansion of agricultural technology? Discuss in detail.
- What are the roles of landless farmers in agricultural extension? Discuss how these farmers can be empowered?[38]
- Write down the application of on farm trial and on station trial. [40]
- Mention the technology transfer process in Bangladesh. [40]
- Describe the importance of transfer of technologies in the field of Agriculture. [28]
- Write the steps of new technology transfer in the field of agriculture.[20]
- Describe a quick process of identification of an agricultural problem.[21]
- Discuss the role of DAE in the transfer of new agricultural technology developed by research institutions. / Discuss the role of extension personnel on dissemination of new technology by NARS. [22,34]
- Mention three extension organizations of Bangladesh. Write the functions of the biggest extension organization.[35]
- Describe the importance of new agricultural extension policy in technology transfer. State its important components. [33]
- "Agricultural extension is a continuous process"- explain.[35]
- Write down the principles of agricultural extension. / Mention ten basic principles of agricultural extension.[29,31,35]
- What is leadership? Discuss quality of a good leader. [27,28,36]
- Discuss the importance of leadership in agricultural extension. [28,30]
- Write the importance of a village women and landless farmer in agricultural extension./ Discuss the importance of involvement of rural women in technology transfer.[27,30,31,36,38]
- What is rural youth? What is the role of youth in agricultural extension? [29,35]
- Write down the essential properties of rural youth for agricultural extension. [33]
- What type of extension program should emphasize for employment of rural youth?
- Discuss how the rural women can be empowered?[29]
- How rural women can include in agricultural extension? Describe.[33]
- Describe the role of rural women in transferring agricultural technology.
- "Rural women plays important role in agriculture and food security"- explain. [36]
- What is landless farmer? Classify landless farmer according to FAO.[35]

PRODUCTION TECHNOLOGY & COSTING OF FIELD CROPS

Production Technology

✍ Describe the production technology of *Boro* rice through SRI method./ What is system of rice intensification? Describe rice production by this technology.

The System of Rice Intensification (SRI) is a methodology that was developed for increasing the productivity of irrigated rice(Boro) cultivation by changing the management of plants, soil, water and nutrients while reducing inputs such as the amount of seeds, water, synthetic fertilizers, and pesticides.

It was developed in Madagascar by Fr. Henri De Laulanié, a French priest with a background in agriculture and passion for rural development, whose keen observation of deviant practice and continued experimentation led to SRI emerging over a decade with six principles of growing rice that were different, often radically, from conventional rice cultivation techniques. The System of Rice Intensification or SRI emerged as a set of six practices:

I. Transplanting of very young seedlings between 8 and 15 days old to preserve potential for tillering and rooting;
II. Planting seedlings singly very carefully and gently rather than in clumps of many seedlings that are often plunged in the soil, inverting root tips;
III. Spacing them widely, at least 25 x 25 cm and in some cases even 50 x 50 cm, and in a square pattern rather than in rows;
IV. Using a simple mechanical hand weeder ('rotary hoe') to aerate the soil as well as to control weeds;
V. Keeping the soil moist but never continuously flooded during the plants' vegetative growth phase, up to the stage of flowering and grain production.
VI. Use of organic manure or compost to improve soil quality.

Methods: The System of Rice Intensification is not a new method or technology. Artificial environment is created for growth and development of rice plant for exploitation of its full genetic potential, land and water resources. It can be accomplished by the following methods:

Raising nursery

(a) Selection of site: In SRI method, utmost care should be taken in the preparation of nursery bed, as 8-12 days old seedlings and in some places 14-15 days old seedlings (2-3 leaf stage) are transplanted. The nursery bed should be preferably prepared in the centre / corner of the plot for quick / efficient transplanting.

c. Mention the technology transfer process in Bangladesh.

10. a.What do you meant by drought tolerant veriety and late blight resistant variety? Write four names of the salt, drought and flood tolerant rice varieties. 4+6=24

b. Discuss the ethical issues regarding biotechnology.

11. a.Write down the role mutation breeding in agriculture.

b. Write down the role of phytohormones in crop production.

12. a.Define crop-weed association. Enlist eight weeds with their Bengali and scientific which are grown in transplant aman rice. 2+8=10

b. Write down the reasons for producing good quality potato in Panchagarh, Jute in Mymensingh, jackfruit in Madhupur, flowers in Jashore and Mango in Rajshahi district. 10

13. a. What is soil pollution? Write down the suitable measures for controlling soil pollution. 3+7

b. Give a brief account of different sources of soil pollution. State the impacts of soil pollution. 6+4

14. **Write short notes (any five): 5*4**

a. Demonstration plot

b. Genetic erosion

c. Seed preservation

d. Plant growth regulator

e. SALT practices

f. BARC

g. DAE

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Recent Questions (41&43 BCS)

41st BCS

Total Marks: 200 **Time: 4 hr**

[N.B. Answer any ten questions including questions no. 15.
Figures in the right margin indicate full marks.]

1. (a) Discuss the main problems in wheat cultivation in Bangladesh. Mention how to overcome those problems. 8

See Page no: 91

(b) Briefly discuss the integrated weed management of rice. 8

See Page no: 551

(c)Write down the names of five salt-tolerant varieties of rice. 4

See Page no: 45

2. (a) Discuss the main problems in cultivation and marketing of summer tomatoes in Bangladesh and mention their solution. 10

See Page no: 168

(b) Write down the prospects of cultivation of 'Btbrinjal'. What precautionary measures should we take in this regard? 6

See Page no: 483+656

(c) Right down the nature of damage done by shoot and fruit borer of brinjal and mention the control measures. 4

Brinjal fruit and shoot borer (***Leucinodesorbonalis)*** is a very dangerouspest on brinjal and is one of the main impediments to brinjal production across the country. It is an internal borer which damages the tender shoots and fruits.

Symptoms: Eggs are laid during the night on the lower surface of the young leaves, green stems, flower buds, or calyces of the fruits. Within an hour of hatching, the caterpillar (larva) bores into the nearest tender shoot, flower, or fruit. Soon after boring into shoots or fruits, they plug the entrance hole with excreta. In young plants, caterpillars are reported to bore inside petioles and midribs of large leaves. As a result, the affected leaves may drop off. Larval feeding inside shoots results in wilting of the young shoot. The damaged shoots

ultimately drop off, disturbing plant growth and reducing fruit number and size. New shoots may grow but this delays crop maturity. Larval feeding inside the fruit results in the destruction of fruit tissue, making even slightly damaged fruit unfit for marketing.

Management

- Use long tolerant varieties e.g. Jhumka, Shingnath, Nayantara, Uttara, BtBrinjal
- Crop rotation with non-host plants would manage the disease
- Intercrop brinjal with other crops, such as cowpea, maize and coriander, which encourage natural enemies (e.g. spiders, lacewings and ladybirds) of the pest
- Collect and destroy dried shoot tips and bored fruits. Burn the infested parts and compost the crop remains to help prevent the build-up of the moth populations in a given area
- Pheromones can be used in low-cost water-trough traps @ 40-60 traps/acre. The pheromone traps will trap adult male moth which reduces the reproduction rate of the pest.
- In severe cases, spray with Flubendiamide(e.g. Belt) alternately at 15 day intervals. Alternatively, any systemic insecticide could be used.

3. (a) What is 'Bangabandhu Dhan'? Discuss its special characteristics and its significance in the food security of Bangladesh. 8

National Seed Board has approved the release of biofortified zinc rice variety in the country: the BRRI dhan100 which is also known as BangabandhuDhan. On the occasion of Bangabandhu's birth centenary, 'Bangabandhudhan' released by Bangladesh Rice Research Institute (BRRI)

Nowadays, developing countries are struggling with nutritional deficiencies where zinc deficiency is known to be very common. Effects of zinc deficiency can be estimatedon about two billion people worldwide. In developing countries, zinc deficiency is the 5th leading cause for the loss of healthy life years. Elderly population mainly in the industrial countries is affected by zinc deficiency. Nearly 30% of theelderlypopulation is considered to be zinc deficient.

Since zinc homeostasis is known to be important in immunological reactions such as the inflammatory response, and the oxidative stress response, multiple chronic diseases observed in the elderly are probably related to zinc deficiency.

In Bangladesh, for achieving the development goals of alleviating poverty and increasing food security agriculture is playing a vital role. Reducing poverty and improving food security through stimulating agricultural growth primarily depends on the adoption of modern high yielding rice varieties enhanced by modern agricultural technologies. Rice is the main staple food grown in Bangladesh and is plying a crucial role for food security.

According to the Department of Agriculture, Bangabandhu Dhan has all the positive featuresof modern upland rice variety which is suitable to grow in Boro season. At the growth stage of the tree, the shape is similar to that of BRRI Dhan-74. The head of this paddy is steep, broad and long and the leaf color is green. Adult plant height 101 cm, the weight of 1000 nourished paddy is 16.7 gm. Rice is medium-thin and white, zinc content is 25.7 mg/kg – which is higher than BRRI rice 74 (24.2 mg/kg). Rice contains amylose 26.8 percent and protein 7.8 percent.

Due to the low incidence of diseases, pests and insects in this paddy, the farmers are inclined to cultivate this paddy as the yield is better than other paddies.
Its lifespan is 148 days and the average yield is 7.7 tons per hectare. However, with proper care and a favorable environment, it is capable of yielding up to 8.8 tons per hectare.
Selection of right type of variety is most vital components for expanding rice production. Development of rice cultivars with a high yielding ability is one of the most fundamental approaches for dealing with the expected increase in the national demand.

Conclusion: In conclusion, BRRI dhan100 was released as a high yielding, zinc enriched rice variety to meet the nutritional (zinc) demand of the country. Adaptability tests of this variety under multilocation trials in the farmers' field showed satisfactory performance with respect to grain yield, slenderness and some yield contributing parameters. It is anticipated that this zinc rice variety will contribute to the nutritional value of Bangladesh. Farmers can cultivate this variety in irrigated ecosystem and thus it will also increase total productivity