

Ch-10 Economically useful plants and Entrepreneurial Botany

1. All cereals are members of family poaceae.
2. Corn syrup is used in manufacture of infant foods.
3. Finger millet refers to Ragi is rich in Ca.
4. Karnataka is the largest coffee producing state in India.
5. Tamilnadu is the largest consumer of coffee in India.
6. Pericarp is the edible part of date palm.
7. Sorghum is native to Africa.
8. Maize is the only cereal which has originated and domesticated from the new world.
9. Quinoa is an example of a pseudocereal.
10. Banana is rich in potassium.
11. Pigeon pea refers to Redgram.
12. Pulses belong to family Fabaceae.
13. India contributes to 80% of global production of Black gram.
14. Consumption of Turmeric can prevent heart attack.
15. Kerala is the largest producer of rubber in India.
16. India is the largest producer, consumer and exporter of turmeric.
17. In vulcanization rubber is heated with sulphur.
18. Teakwood is a carpenter friendly wood.
19. Paste of powdered stem of Cissus quadrangularis is used to treat bone fractures.
20. Turmeric is used to treat Alzheimer's disease, wound healing.
21. Exudate from Inflorescence axis is used in making palm sugar.
22. Groundnut is native of Brazil.
23. Tectona grandis is coming under family Lamiaceae.
24. Tamarindus indica is indigenous to Tropical African region.
25. New world species of cotton is G.barbadense.
26. The active principle trans-tetra hydro canabinal is present in Marijuana.
27. The principal colouring matter of Lawsonia inermis is lacosone.
28. Aloe vera is coming under the family Asphodelaceae.
29. Lawsonia inermis is coming under the family Lythraceae.
30. Siddha is principally based on the panchabuta philosophy.
31. Jasminum grandiflorum is coming under the family Oleaceae.
32. The term paper is derived from the word papyrus.
33. Hevea brasiliensis is coming under the family Euphorbiaceae.
34. Elettaria cardamomum is coming under the family Zingiberaceae.
35. Tamarindus indica is coming under the family Fabaceae-Caesalpinioideae.
36. World's hottest chilli is Carolina reaper pepper measures 2,200,000 SHU.
37. Coffea arabica is coming under the family Rubiaceae.
38. Arachis hypogaea is coming under the family Fabaceae.
39. Saccharum officinarum is coming under the family poaceae.
40. Currently about 10,000 food plants are being used.
41. Around 1,500 species of plants were brought under cultivation.
42. Millets are gluten free and have less glycemic index.
43. Paspalum Scrobiculatum helps to reduce obesity, blood sugar and blood pressure.

44. Abelmoschus esculentus is coming under the family Malvaceae.
45. Setaria italica is domesticated first in China about 6000 years.
46. Vigna radiata is traditionally used as a cosmetic, especially for the skin.
47. Mango is the major table fruit of India.
48. Cashew made its way to India in the 16th century through Portuguese sailors.
49. Molasses is the raw material for the production of ethyl alcohol.
50. All non alcoholic beverages contain alkaloids that stimulate central nervous system.
51. Coffea arabica is native to the tropical Ethiopia.
52. Caffeine enhances release of acetyl choline.
53. Cardamom is employed as a stimulant and carminative.
54. Cardamom is called as Queen of spices.
55. Curcumin extracted from turmeric is responsible for the yellow colour.
56. The name tamarindus is of Arabian origin which means dates of India.
57. About 75% of the Jute produced is used for manufacturing sacks and bags.
58. Paper production is a Chinese invention.
59. Tyre and other automobile parts manufacturing industries consume 70% of the rubber production.
60. Concentrated latex is used for making gloves.
61. Pepper also enhances the bioabsorption of medicines.
62. Capsaicin is responsible for the pungency or spicy taste of chillies.
63. Naga viper chilli is the hottest in India that measure 1,349,000 SHU.
64. Aloe leaves have multiple properties such as emollient, antibacterial, antioxidant, antifungal and antiseptic.
65. Aloe vera belongs to Asphodelaceae.
66. Phyllanthin is the major chemical component t of Phyllanthus amarus.
67. Phyllanthus maderaspatensis is also commonly sold in the medicinal plant markets collected from non-forest are as Keezhanelli.
68. Andrographis Paniculata is known as the King of Bitters.
69. Andrographis is a potent hepatoprotective.
70. The active principle in Marijuana is Trans-tera hydrocanabinal (THC).
71. THC is also used in reducing nausea of cancer patients undergoing radiation and chemotherapy.
72. Organic farming directed towards the philosophy of Back to Nature.
73. Botanical pest repellent and insecticide made with the dried leaves of Azadirachta indica.
74. Medicinally useful molecules obtained from plants that are marketed as drugs are called Biomedicines.
75. Medicinal plants which are marketed as powders or in other modified forms are known as Botanical medicines.
76. Fibre is a long narrow and thick walled cell.
77. Corchorus belongs to family Malvaceae.
78. Elettaria cardamomum is a stimulant and carminative.
79. Pepper enhances salivary and gastric secretions and also as a stomachic.

80. Curcumin stops platelets from clotting in arteries, which leads to heart attack.
81. Capasicum annum, Capasicum frutescens belongs to Solanaceae.
82. Pepper is referred to as King of spices.
83. Chillis are the good source of vitamin C, A and E.
84. Hard rubber is used in the electrical and radio engineering industries.
85. Cotton is the world's most important non-food commercial crop.
86. Charles Goodyear invented vulcanization in 1839.
87. invented vulcanization in 1839.
87. Henna is indigenous to North Africa.
88. Kerala is the largest producer of rubber in India.
89. Foamed latex is used in the manufacture of cushions, pillows and life belts.
90. Aloevera is a native of Sudan.
91. One ton of Jasmine blossom yields about 2.5 to 3kg of essential oil.
92. Long fruit cultivars of this species are commercially known as Carpenne pepper.
93. Turmeric is used as a colouring agent in pharmacy, confectionery and food industry.
94. Capsaicin has pain relieving properties and used in pain relieving balms.
95. Condiments are flavouring substances having sharp taste.
96. Spices are aromatic plant products and are characterized by sweet or bitter taste.

Ch-9 Plant Breeding

1. De candolle in his origin of cultivated plants studied 247 cultivated plant species.
2. Zhukovsky put forward the concept of mega gene centre for the origin of cultivated plants.
3. Zhukovsky divided the whole world into 12 mega gene centres.
4. Alexander Von Humbolat considered the original sources of most useful plants and their origin is an Impenetrable secret.
5. Darwin's evolutionary theory proposed that origin of useful cultivated plants have existed through natural selection and hybridization.
6. Dr.M.S.Swaminathan is a pioneer mutation breeder.
7. C.T.Patel developed world's first cotton hybrid.
8. Choudhary Ram Dhan is a wheat breeder who is famous for C-591 variety of wheat.
9. Dr.K.Ramiah developed high yielding variety of rice.
10. Sir t.S.Venkataraman is an eminent sugarcane breeder.
11. World's first hybrid of sorghum (CSH-1) was developed by N.G.P.Rao.
12. Dr.B.P.Pal developed superior disease resistant varieties of wheat.
13. Organic farming is an alternative agricultural system which originated early in the 20th century.
14. According to Harlan agriculture originated independently in 3 different areas in different times or simultaneously.
15. Bio fertilizers containing rhizobium bacteria are called rhizobium biofertilizer culture.
16. Rhizobium is best suited for the paddy fields which increase the yield by 15-40%.

17. Arbuscular Mycorrhizae is formed by the symbiotic association between certain phycomycetous fungi and angiosperm roots.
18. AM have the ability to dissolve the phosphates in the soil.
19. Anabaena azolla is known to contribute 40-60 kg/ha/crop.
20. Most seaweed based fertilizers are made from Kelp (brown algae)
21. Sea weed has more than 70 minerals, vitamins and enzymes.
22. Bio-pesticides are biologically based agents used for the control of plant pests.
23. Trichoderma are free living fungi recognized as bio-control agent.
24. Beauveria species is an entomo pathogenic fungus that grows naturally in soils throughout the world.
25. Damping off of tomato is caused by Rhizoctonia solani.
26. Beauveria species acts as a parasite on various arthropod species causing white muscardine.
27. Plant Introduction may be defined as the introduction of genotypes from a place where it is normally grown to a new place or environment.
28. The adjustment or adaptation of the introduced plant in the changed environment is called acclimatization.
29. Selection is the choice of certain individuals from a mixed population for a one or more desirable traits.
30. Quarantine is a strict isolation imposed to prevent the spread of disease.
31. Johannsen in 1903 coined the word pure line.
32. The process of removal of anther is called Emasculation.
33. Hybridization is the method of producing new crop varieties in which two or more plants of unlike genetically constitution is crossed.
34. The cross between the plants of same variety is Intravarietal hybridization.
35. The only disadvantage of mass selection is that it is difficult to distinguish the hereditary variation from environmental variation.
36. The genotype of a clone remains unchanged for a long period of time.
37. Green revolution the term was coined by William S.Gaud.
38. Gamma Garden in India is Bose Research Institute located at Calcutta in 1959.
39. Pseudoheterosis is also termed as luxuriance.
40. Muller and Stadler coined the term Mutation breeding.
41. M.S.Swaminathan produced the first semidwarf fertilizer responsive hybrid variety of rice TN1.
42. Vegetative propagation is the best suited measure for maintaining hybrid vigour, since the desired characters are not lost.
43. National Bureau of Plant Genetic Resources (NBPGR) is responsible for introduction and maintenance of germplasm of various agricultural and horticultural station in our country.
44. Euheterosis is the true heterosis which is inherited.
45. G.H.Shull was the first scientist to use the term heterosis.
46. The superiority of the F₁ hybrid over its parents is called heterosis or hybrid vigour.

47. The cross between the plants of same variety is called Intra varietal hybridization.
48. The cross between the plants belonging to two different varieties of the same species is known as Intra specific hybridization.
49. The cross between the plants belonging to different species belonging to the same genus is called Intragenic hybridization.
50. The plants which possess more than two sets of chromosomes are called polyploids.
51. A triploid condition is seen in sugarbeet, apple and pear.
52. Polyploidy can be induced by colchicine to double the chromosome number.
53. Norin 10 dwarfing genes have high photosynthetic rate per unit leaf area.
54. Nel Jayaraman received the National Award for best Genome Savior.
55. Breeding crops with higher levels of vitamins and minerals is called Bio fortification.
56. A new variety of *Abelmoschus esculentus* is called Parbharni Kranti.
57. Transferring a gene from an identical or closely related species is called cisgenesis.
58. Organising processes that alter gene activity without altering the DNA itself is called epigenetic methods.
59. Hairy leaves in several plants are associated with resistance to insect pests.
60. Nectar-less cotton varieties do not attract bollworms.
61. High aspartic acid, low nitrogen and sugar content leads to resistance to maize stem borers.
62. New Breeding Techniques (NBT) is a collection of methods that could increase and accelerate the development of new traits in plant breeding.
63. Saccharum bareri had poor sugar content originally grown in North India.
64. Allopolyploids are produced by multiplication of chromosome sets that are initially derived from two different species.
65. Plant Introduction may be defined as the introduction of genotypes from a place where it is normally grown to a new place or environment.
66. Plant breeding is the science of improvement of crop varieties with higher yield.
67. Artificial selection is a human involved process in having better crop from a mixed population.
68. Secondary introduction is selection of superior variety and hybridized with a local variety.
69. Azolla is a free floating water fern.
70. SLF contains Cytokinin, Gibberellins and Auxin.
71. Beauveria is an entomo pathogenic fungus.
72. Green manuring is defined as the growing of green manure crops in the field.
73. Trichoderma are free living fungi.
74. Bio-pesticides are non-toxic, cheaper and ecofriendly.
75. Bio fertilizers are efficient in fixing nitrogen solubilising phosphate.
76. Pure line selection is a collection of plants obtained as a result of repeated self pollination from a single homozygous individual.

77. Pure line selection are less adaptable.
78. Soaked in seaweed extract germinate much rapidly.
79. Theophrastus, Dioscorides, Pliny the elder and Galen laid down the scientific foundation in understanding origin and domestication of cultivated plants.
80. Harlan says that the centre of crop plant means the places of agricultural origin of the crop plants.
81. Organic farming sustains the health of the soils, ecosystems and people.
82. Zhukovsky divided the whole world into 12 mega gene centres
83. Earliest record of agriculture is found in the fertile crescent region in and around Tigris and Euphrates river valleys.
84. Vavilov initially proposed eight main geographic centres of origin originally in 1926.
85. Bio fertilizers are efficient in fixing nitrogen, solubilising phosphate and decomposing cellulose.
86. Bio fertilizers are more efficient and cost effective than chemical fertilizers.
87. Arbuscular Mycorrhizae provides necessary strength to resist disease, germs and unfavourable weather conditions.
88. SLF promotes vigorous growth, improves resistance to frost and disease.
89. Bio pesticides have become an integral part of pest management.
90. In early days plant breeding activities were based on skills and ability of person involved.
91. W.Bateson introduced the concept of gene interaction.
92. Pseudomonas is a plant growth promoting Rhizobacteria.
93. Most sea weed based fertilizers are prepared from Brown Algae.
94. Deviraj is a hybrid variety of cotton.
95. Triple gene dwarf wheat is a product of Mutation breeding.
96. Cas 9 is a protein.
97. Developing new genetic diversity by exposing crop plants to chemical agents or radiation is called Mutagenesis.
98. Beauveria helps plants by killing insects.
99. IRS is a rice variety.
100. Sesbania grandiflora is used for green leaf manuring.
101. Tephrosia purpurea is used as green manure.
102. The adjustment of the Introduced plant in the changed environment acclimatization.
103. Physiological preconditioning of seeds to protect them seed hardening.
104. Himgiri (wheat variety) is an example of plant bred for disease resistance.
105. Dtomita-2-rice is produced by mutation breeding.
106. Cotton Mather first observed natural hybridization in maize.
107. Penicillium/Aspergillus are the examples of phosphorous mobilizing biofertilizer.
108. Amanita and Glomus are the examples of phosphorous mobilizing biofertilizer.
109. Clones are derived from a asexually propagated plant.
110. Wheat Enriched with Protein Atlas 66 is an example of a crop bred for biofortification.