

AGRONOMY

- Agronomy is a branch of agricultural science that deals with the study of crops and the soils in which they grow. It is the science and technology of producing and using plants for food, fuel, fiber and reclamation. It encompasses work in the areas of plant genetics, plant physiology, meteorology, and soil science. Agronomy is the application of a combination of sciences like biology, chemistry, economics, ecology, earth science, and genetics. Agronomists work to develop methods that will improve the use of soil and increase the production of food and fiber crops, creating healthier food, managing environmental impact of agriculture, and creating energy from plants. They conduct research in crop rotation, irrigation and drainage, plant breeding, soil classification, soil fertility, weed control and other areas.

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Discussion on Agronomy

Agronomy is the branch of agriculture sciences dealing with principles and practices of crop production and field management. Agronomy is mainly based on following basic principles Agrometeorology, Soils and Tillage, Soil and Water Conservation, Dryland Agriculture, Mineral Nutrition of Plants, Manures and Fertilizers, Irrigation Water Management, Weed Management, Cropping and Farming Systems, Sustainable Agriculture.

Agrometeorology

Agrometeorology is the branch of meteorology, which investigates the relationship of plants and animals to the physical environment. Agrometeorology describes Agrometeorological Observatory, Atmosphere, Wind, Clouds and Precipitation, Solar Radiation, Air Temperature, Soil Temperature, Humidity and Evaporation, Weather Hazards and their Mitigation, Weather and Crop Productivity, Weather Relations of crops, Weather Forecasting and Classification of Climate and Agroclimate in relation to agriculture.

Soils and Tillage

Soils and tillage are necessary to know how soils should be managed and conserved for sustainable crop production. Under this principle of agronomy we can learn Physical Properties of Soil, Chemical Properties of Soil, Biological Properties of Soil, Soil Organic Matter, Salt Affected Soils,

and Tillage.

Soil and Water Conservation

We must conserve soil and water because these are the most critical resources. In this principle we will touch to Soil Erosion, Water Erosion, Wind Erosion, Soil and Water Conservation Measure.

Dryland Agriculture

Dryland farming is cultivation of crops in regions with annual rainfall more than 750 mm. Under this we need to read History of Dryland Agriculture, Problems of Dryland Agriculture, Monsoon and Length of Crop Growing Season, Drought, Moisture Conservation in Dryland, Water Harvesting and Protective Irrigation, Crops and Cropping Systems, Mitigating Adverse Effect of Aberrant Weather, Alternate Land Use Systems, Watershed Management and Improved Dryland Agricultural Implements.

Mineral Nutrition, Manures and Fertilizers

Nutrient Management is one of the most important principles in agronomy which includes Essentials in Plant Nutrition, Nutrient Uptake by Plants, Soil Fertility Evaluation, Manures, Fertilizers in Indian Agriculture, Nitrogen Fertilizers, Phosphatic Fertilizers, Potassic Fertilizers, Calcium, Magnesium and Sulphur, Micronutrients, Mixed Fertilizers, Fertilizer Application, and Fertilizers & Environment.

Irrigation Water Management

Irrigation Water Management is very important for success of agriculture. In irrigation management we need to read Irrigation in Indian Agriculture, Water Resource & Their Development, Systems of Irrigation, Soil – Water Relationships, Plant – Water Relationship, Evapotranspiration, Water Requirements of Crops, Measurement of Irrigation Water, Scheduling Irrigation, Methods of Irrigation, Irrigation & Water Use Efficiency, Irrigation Practices for Major Crops, Quality of Irrigation Water, Drainage, Cropping Pattern in Command Areas, Pricing Irrigation Water.

Weed Management

Weed is a plant grown at place & time which is not desire. Understanding of Common Weeds, Losses and Benefits, Weed Ecology & Classification, Crop – Weed Association & Competition, Methods of Weed Control, Classification of Herbicides, Herbicide Formulation, Herbicide Application, Absorption & Translocation of Herbicides, Mode of action of Herbicide, Selectivity of Herbicide, Herbicide Combination, Rotations & Interactions, Persistence of Herbicides in Soils, Herbicide Resistance, Chemical Weed Control in Different Crops, Parasitic & Aquatic Weed Control.

Cropping Systems

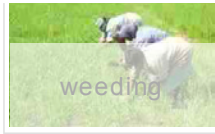
Cropping systems is gaining more importance in this day and includes Various Terminology, Major Cropping Systems, Agronomy of Rainfed Cropping Systems, Agronomy of Irrigated Cropping Systems, Evaluation of Cropping Systems, Farming Systems and Farming Systems Research.

Sustainable Agriculture

Sustainable agriculture can be define as the form of agriculture aimed at meeting the food and fuel needs of the present generation without endangering the resource base for the future generations. It includes study of Impact of Improved Crop Production Technology, Factors Affecting Ecological Balance, Evaluation of Sustainable Agriculture, Components of Sustainable Agriculture, Sustainable Utilization of Land Resources, Sustainable Utilization of Water Resources, Sustainable utilization of Biodiversity, Integrated Nutrient Management, Integrated Nutrient Management, Integrated Plant Protection, Enhancing Sustainability of Dryland Agriculture, Enhancing Sustainability of Irrigated Agriculture, Agricultural Sustainability and Farming Systems.

Agronomic Pictures





Broad Categories of Agronomy

- **Basics of Agronomy**
- **Crop Production**
- **Farming Systems**
- **Rainfed Agriculture**
- **Water Management**
- **Agriculture Meteorology**
- **Weed Management**
- **Soil Fertility Management**
- **Sustainable Agriculture**

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