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A BUSINESS PLAN ON THE PRODUCTION OF FRUITS AS AGRICULTURAL ENTERPRISE

When starting an agricultural enterprise in general, one need to Identify the strengths and weakness of the chosen agricultural enterprise and weigh it ,to know if the strengths are greater than the weakness or vice versa. The process of writing a plan is important cause, writing your plan and reviewing it regularly gives you a better window into what you need to do to achieve your goals and be successful.

WHAT IS A FRUIT: A layman definition of fruit is the sweet and fleshy product of a tree or other plant that contains seed and can be eaten as food. While in botany, a fruit is the seed-bearing structure in flowering plants formed from the ovary after flowering. Fruits are the means by which angiosperms disseminate seeds. Fruits are sources of many essential nutrients that are under consumed, including potassium, dietary fiber, vitamin C, and folate (folic acid). Diets rich in potassium may help to maintain healthy blood pressure. Most fruits are naturally low in fat, sodium, and calories. None have cholesterol.

STRENGTHS AND WEAKNESS OF FRUIT PRODUCTON:

The Strengths of the Fruit Trade are undeniable. For starters, the produce traded is natural, consumable and an essential part of our diet. There is therefore no need for extensive marketing campaigns to convince people that the risks of consuming fruit and vegetables are manageable!

The Fruit Trade is well established and the skills of the people involved are finely honed. With the support of modern technology, it is possible to deliver any produce to anywhere in the world at any time. As long as the money is right.

There is an incredible degree of diversity within the Fruits . Just think about the many different types of fruits there are. Then consider, for example, just how many varieties of apples you have seen displayed in the supermarkets. Just take Golden Delicious apples as one example. Have you ever thought about in how many different countries these apples are grown? Diversity within diversity!

Unfortunately there are number of Weaknesses in the fruit trade which present a challenge to the business. In the first instance there is the intrinsic perishability of the fruits & vegetables product range and the issues surrounding that factor start long before the 'trade' component of the business comes into play. All it needs is one un clement weather event during the production, growing or ripening phase and 'trade' will become severely limited with respect to that crop or disappear altogether for the season.

One of the consequences of this perishability is that it is difficult to predict how much of a planted crop will become available for harvest and what quality state that crop will be in. This, of course, does not just apply to one crop but all crops anywhere. Determing the value of any given crop at any one time is therefore not a science, it can't be formula based, but is more akin to being an art.

IMPORTANCE OF FRUIT PRODUCTION:

Economic importance;

* High productivity: High yield per unit area: From a unit area of land more yield is realized from fruit crops than any of the agronomic crops. The average yields of Papaya, Banana and Grapes are 10 to 15 times than that of agronomic crops.
* High net profit: Through, the initial cost of establishment of an orchard is high, it is compensated by higher net profit due to higher productivity or high value of produce.

Nutritional importance;

* Importance of fruits in human diet is well recognized. Man cannot live on cereals alone.
* Fruits and vegetables are essential for balanced diet and good health.
* Nutritionist advocates 60-85g of fruits and 360 gm.
* Vegetables per capita per day in addition to cereals, pulses, egg etc.
* Fruits and vegetables are good sources of vitamins and minerals without which human body cannot maintain proper health and develop resistance to disease they also contain pectin, cellulose, fats, proteins etc.

**Here is are detailed considerations for a fruit production agricultural enterprise:**

**The Variety:** Its Propagation And Improvement

The first step in establishing a fruit- or nut-growing enterprise is the selection of individual plants with high productivity and a superior product. Such an individual is a horticultural variety. If it is multiplied vegetatively from rooted cuttings, from root pieces that throw shoots, or by graftage, each plant in the group (called a clone) that results is identical with the others. Nearly all commercially important perennial fruit and nut crops are clonally propagated; i.e., their varieties are multiplied vegetatively by one means or another. Some nut crops, such as the wild pecan, cashew, black walnut, hickory, and chestnut still come from trees that grow at random from seed; hence, character and quality tend to vary.

**Cultivation:**

Site selection;The site of a fruit-growing enterprise is as significant in determining its success as the varieties grown. In fact, variety and site together set a ceiling on the productivity and profit that can be realized under the best management. In most developed fruit regions microclimatic conditions (climate at plant height, as influenced by slight differences in soil, soil covering, and elevation) and soil conditions are the two components of a site that determine its desirability for a fruit-growing enterprise. Sometimes (particularly with highly perishable fruits) transportation to market must also be considered.

Planting and spacing systems;Growth, flowering habits, and light requirements on the one hand, and management problems on the other, determine the most satisfactory planting plan for a fruit- and nut-growing enterprise. There is a trend toward use of dwarfing stocks, growth control chemicals, or closer planting and training, or all of them to get the highest yields and best operation efficiency possible on a unit of ground.

**Soil management**

Two soil management practices (1) clean cultivation and chemical weed control or both and (2) permanent sod culture, illustrate contrasting purposes and effects. In clean cultivation or chemical weed control, the surface soil is stirred periodically throughout the year or a herbicide is used to kill vegetation that competes for nutrients, water, and light. Stirring increases the decomposition rate of soil organic matter and thereby releases nitrogen and other nutrients for use by the fruit crop. It may also provide some improvement in water penetration. On the other hand, laying bare the soil surface exposes it to erosion; destruction of organic matter eventually lowers fertility and causes soil structure to change from loose and friable to tight and compacted. Though sod culture minimizes the destructive processes and may permit a modest increase in fertility, the sod itself competes with fruit plants for water and nutrients and may even compete for light. As a result, permanent sod culture is practical only with tree crops that are normally rather low in vegetation, such as apple, pear, sweet cherry, nuts, and mango. Competition from established sod may be detrimental to vigorously growing fruit plants like grape, peach, and raspberry unless adequate fertilizer and water are supplied.

Irrigation; In semi-arid and arid regions, irrigation is necessary. Probably the maximum demand occurs in date gardens, because they expose a large leaf surface the year around under conditions of high evaporation and practically no rainfall. Irrigation in humid climates is generally being provided increasingly during extended dry periods that occur at one time or another during most growing seasons.

Fertilization; Needs of perennial fruit plants for fertilizers depend on the natural fertility of the soil supporting them and on their individual requirements. Of the essential elements, supplemental nitrogen is almost always needed; potassium supplements may be needed, even in some desert areas. Although strawberry, grape, peach, and a few other fruits have responded favourably to phosphorus, and although its application has been recommended, the phosphorus requirement of woody plants is low and deficiency is rather rare. Calcium deficiency may be more common than realized; lime is often desirable to reduce soil acidity and because of other indirect benefits. Inadequate magnesium in the soil has been noted by workers studying a wide range of fruit species. Of the trace elements, zinc, iron, and boron are most likely to be deficient, but copper, manganese, and molybdenum deficiencies also are being reported for some fruits in some regions. Iron deficiency is difficult to control in orchards where soils have high alkalinity. Granulated fertilizers in modern close-planted commercial orchards are usually broadcast by machine a month or two before growth starts. Additional nitrogen sometimes is applied in heavy crop years to apple, pear, and citrus.

**Crop Enhancement:**

Pollination: The stimulus of pollination, fertilization, and seed formation is needed to get good size, shape, and flavour of most of the fruits. (Banana, pineapple, and some citrus and fig varieties are exceptions.) Transfer of pollen from the anthers (male) to the stigmas (female) is accomplished in nature either by insects or by movement in air. It is common practice to bring beehives into the orchard during bloom. Rainy cold weather during bloom with little or no sunshine can deter activity of the honey bee (the key insect pollinator) and reduce fruit set appreciably. This is one of the main problems not fully solved by fruit researchers. Hand-pollination by daubing collected and preserved pollen onto the stigma (as is done with date palms) sometimes is practiced for other fruits, but this approach is not widespread.

Thining; Removal of flowers or young fruit (thinning) is done to permit the remaining fruits to grow more rapidly and to prevent development of such a large crop that the plant is unable to flower and set a commercial crop the following year. Thinning is done by hand, mechanically, or chemically. With the date, the pistillate flower cluster is reduced in size at the time of hand-pollination. In the case of certain table grape varieties, some clusters are cut off. With the Thompson seedless grape, a combination of girdling the trunk bark and judicious application of gibberellin (growth regulating) sprays at blossoming gives excellent full bunches.

Pest control and preservation; in many fruit enterprises, pest control is the most expensive and time-consuming growing practice. Where the concentration of fruit farms in an area warrants it, individual efforts are complemented by legislative measures including quarantine regulations to force removal of pest-laden, unattended orchards. Sometimes the most economical control procedure is biological in nature. There is increased research today to find and multiply parasites that kill fruit crop pests. Such biological methods are necessary as political pressures increase for banning DDT and other chemicals. Selection of varieties that are immune, resistant to attack, or tolerant to specific pests, is a biological control procedure also widely used. Chemical control procedures, however, are relied on most heavily. Air-blast spray or mist-application machinery covering 70 acres (28 hectares) of trees or more in a day is now in common use.

HARVESTING AND PACKAGING: The proper time to remove a fruit from the tree or plant varies with each fruit and is governed by whether the product will be sold and consumed within hours, or stored for weeks, months, or even a year. Most fruits are harvested as close as possible to the time they are eaten. A few, of which banana and pear are outstanding examples, may be harvested while immature and still ripen satisfactorily. Orange, grapefruit, and some varieties of avocado may be “stored” on the tree for several months after they have attained good quality; this method cuts costs in handling and marketing.

Postharvest physiology of fruits; Fruit ripening is a form of senescence and signifies the final stage in fruit development. A fleshy fruit is the enlarged ovary of a flower (avocado) or additional floral parts such as in apple, pear, and pineapple. Usually fertilization, and sometimes pollination alone, stimulate the floral parts causing a rapid cell division that leads to differentiation and the formation of the fruit structure. During this stage fruits consist of small, young cells filled with protoplasm. When the young fruit has been stimulated, presumably by plant hormones that originate from the embryonic seeds, rapid cell expansion takes place. During this stage fruits gain rapidly in size and weight. The cells develop small cavities or spaces in their tissue (become vacuolated) and begin the process of foodstuff accumulation, which lends fruits their compositional diversity. Banana, apple, and date, for example, accumulate mainly carbohydrates. Avocado and olive store fatty materials. Important constituents of most fruits are organic acids such as malic acid, found in apple and pear; citric acid, found in citrus fruits and pineapple; and tartaric acid, found in grapes. Fruits are usually low in protein.

Waste materials, other uses; Apple wood is excellent for fireplace use, and cherry and certain other fruit woods are used for the finest household furniture. The dried residue from processing apples and citrus is made into feed for conditioning livestock for market, as are waste materials from many processed fruits. Apple pomace (waste material) is spread on the orchard floor with a manure spreader to help in soil conditioning and as a source of minerals.

Nutshells have many uses. Filbert shells are made into plywood, artificial wood, and linoleum; a mixture of shells with powdered coal and lignite makes cinder blocks; shells are used in making poisonous gases and gas masks, and as fuel and mulch. Cashew shell liquid, a skin irritant, is made into resins for varnishes; kills mosquito larvae; can be impregnated in wood as a varnish to preserve against insect attack; is used in automotive brake linings and clutch facings; is used as a laminating agent for paper, cloth, and glass fibres; and is used to treat cement floors and synthetic rubber to retard deterioration. Finely ground black-walnut-shell flour is used in plastic molding powder; as a glue extender; to prevent overheating of drills; to “sand”-blast jet engines; for polishing, burnishing, and deburring metal parts; for cleaning foundry molds; and to spray on tires for better traction. Pecan shells are used in place of gravel in cement walks and driveways; as fuel; as mulch and as a soil conditioner; in livestock bedding; as filler for fertilizers, feeds, etc.; in the manufacture of tanning agents, with charcoal and abrasives in hand soap; as a filler in plastic and veneer wood; and many of the same uses as black walnut shells. Some nutshells are made into beads, marbles, buttons, carving tools, ink, and ornament. The India clearing nut is cut open and rubbed on the inside of earthenware that will contain drinking water; the juice coagulates the water impurities which sink to the bottom. The nuts of the betel palm in the Far East and of the kola tree in West Africa are chewed for their stimulatory effects.