



A STUDY OF MARKETING OF HYBRID SEEDS ON SYNGENTA GLOBAL

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ABSTRACT

The present study covers a wide spectrum of issues involved in the marketing of high yielding and hybrid seeds in the study area. The interrelated aspects of marketing of seeds have been performed by the farmers and the concerned seeds companies. The assured market and better price for the hybrid seeds were the compelling factors for starting the seed farming as asserted by all the farmers. The market is assured since the seeds companies enter into an agreement with the farmers for purchasing all their seed. Similarly price of the hybrid seeds is much better than the other seed. Hence price incentive has been another factor for inducing the seed farmers to go into the seed farming as an alternative to traditional agriculture. As per pre agreement of seed companies brought raw seeds from farmers. After buying raw seeds company following many marketing dimension in there level. This study has focused on the strides made in marketing of hybrid and high yielding varieties of seeds. The study has led to some significant findings and conclusions which have been summarized here to provide a brief comprehensive picture of the research findings on the subject.

INTRODUCTION

Syngenta is a leading science-based agtech company. We help millions of farmers around the world to grow safe and nutritious food, while taking care of the planet. Syngenta is a global company with headquarters in Switzerland. 30,000 employees, in more than 90 countries are working to transform how crops are grown and protected. We accelerate our innovation and invest to advance a more sustainable agriculture which is good for nature, farmers and society. Our work helps farmers to face the challenges of today's changing world. Farmers must adapt to the effects of climate change, improve the soil and enhance biodiversity, and respond to society's views on food and agricultural technology. And we are transparent about what we're doing and the impact it is making. Syngenta innovates with world-class science to protect crops and improve seeds. Our 2 core businesses support farmers with technologies, knowledge and services so they can sustainably provide the world with better food, feed, fibre, and fuel. Syngenta creates value for all our stakeholders – farmers, employees, suppliers, food chain partners, the communities where we work, and society at large. We measure our success not only by our business performance, but also by the benefits we bring to farming and the environment.

Objectives of the study

1. To appraise the financial, training and technical facilities provided by the seeds companies to the farmers.
2. To make an appraisal of the various marketing mix and marketing infrastructure for the marketing of seed companies.
3. To examine the important marketing functions of assembling, grading, branding, weighting, packing and transporting both at the companies' level.
4. To study the channel of distribution, financing of the marketing operations and other related marketing aspects germane to the research topic.
5. To analyse the pricing and the marketing costs and marketing problems at different levels.

LITERATURE REVIEW

The use of genetic, manual and chemical methods to control pollination in vegetable hybrid seed production:

Production of hybrid varieties of vegetable crops is currently a desired breeding goal, due to their remarkable agronomic performance and to the possibility of intellectual property protection. However, efficient hybrid production requires a careful pollination control to guarantee the hybrid nature of F₁ seed. Several technologies ranging from manual emasculation to genetic transformation are used to inhibit pollen production in mother plants. In this review, we examine the principles underlying strategies like genetically determined systems (genic male sterility, cytoplasmic-genic male sterility, self-incompatibility) and other methods (manual emasculation, chemical-hybridizing agents) in different species, considering the benefits and drawbacks of their adoption. Finally, we present the current state of the art for vegetable hybrid seed production.

Hybrid varieties are major components of vegetable production systems due to their vigour, uniformity, horticultural quality, biotic and abiotic stress resistances and high yields. Another important reason is the inherent biological intellectual property protection offered by hybrids. In some cases, hybrid parents are owned by a company. The inbred parents may be trade secrets, and thus, the hybrid has a built in form of protection for seed companies. Worldwide the share of hybrid seed is increasing at a fast pace of 8–10% annually in most of the vegetables crops (da Silva Dias 2014). However, their adoption by vegetable growers is limited by the high cost of hybrid seed. One of the bottlenecks in hybrid seed production is pollination control required to eliminate pollen from the mother line in order to avoid undesirable selfing, thus obtaining true F₁ seed. Different technologies – ranging from manual emasculation to transformation – provide alternative pathways to avoid pollen production in female plants (Fu et al. 2014, Kempe and Gils 2011). The choice among them is made according to the species of interest, the economic value of the final product and the hybrid seed industry characteristics. This review deals with the principles and applications of current available technologies of pollination control for vegetable hybrid seed production. In the first section, different systems are presented and their advantages and restrictions are discussed. The second part describes the current state of the art in the field of hybrid production of vegetable crops.

Heterosis in Eggplant (*Solanum melongena* Linn.): Prospects and Problems in Commercial Production of Hybrid Seeds:

The scope of the review is confined to intervarietal and interspecific crosses. Reports on heterosis are so grouped that those emanating from adjacent geographical regions are kept together. Within any one group they are arranged in chronological sequence.

Intervarietal Crosses. The earliest recorded instances of artificial hybridization in the eggplant were evidently those carried out by Bailey and Munson (5) in the United States in 1889. None of their hybrids, how

In the Phi some local varieties were very early and healthy lines. Capinpi that hybrid seed production percentage superior to the original and setting number of fruits per crosses between

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Bailey (6) further reported that the hybrids between purple and white fruited types were unfruitful; he did not explain the causes of the unfruitfulness. The first positive report of heterosis in the eggplant came from Munson (25) in 1892. Subsequently, Halsted (12, 13) reported that one of his crosses was double the size of the parents and also yielded more. Odland and Noll (28) experimented with sixteen hybrid types and recorded that in every case the hybrids out yielded their respective parents besides being earlier; the range of increased yields of the hybrids over the mean yield of respective parents extended from 11 to 153%, while the mean of all the sixteen hybrids over the mean of all their parents was 62%.

Male Fertility Genes in Bread Wheat (*Triticum aestivum* L.) and Their Utilization for Hybrid Seed Production

Hybrid varieties can provide the boost needed to increase stagnant wheat yields through heterosis. The lack of an efficient hybridization system, which can lower the cost of goods of hybrid seed production, has been a major impediment to commercialization of hybrid wheat varieties. In this review, we discuss the progress made in characterization of nuclear genetic male sterility (NGMS) in wheat and its advantages over two widely referenced hybridization systems, i.e., chemical hybridizing agents (CHAs) and cytoplasmic male sterility (CMS). We have characterized four wheat genes, i.e., *Ms1*, *Ms5*, *TaMs26* and *TaMs45*, that sporophytically contribute to male fertility and yield recessive male sterility when mutated. While *Ms1* and *Ms5* are Triticeae specific genes, analysis of *TaMs26* and *TaMs45* demonstrated conservation of function across plant species. The main features of each of these genes is discussed with respect to the functional contribution of three sub-genomes and requirements for complementation of their respective mutants. Three seed production systems based on three genes, *MS1*, *TaMS26* and *TaMS45*, were developed and a proof of concept was demonstrated for each system. The *Tams26* and *ms1* mutants were maintained through a TDNA cassette in a Seed Production Technology-like system, whereas *Tams45* male sterility was maintained through creation of a telosome addition line. These genes represent

different options for hybridization systems utilizing NGMS in wheat, which can potentially be utilized for commercial-scale hybrid seed production.

Production and Applications of Artificial seeds:

Artificial seeds are most commonly described as encapsulated somatic embryos. They are product of somatic cells, so can be used for large scale clonal propagation. Apart from somatic embryos, other explants such as shoot tips, axillary buds have also been used in preparation of artificial seeds. Artificial seeds have a variety of applications in plant biotechnology such as large scale clonal propagation, germplasm conservation, breeding of plants in which propagation through normal seeds is not possible, genetic uniformity, easy storage and transportation etc. For some plants such as ornamental plants, propagation through somatic embryogenesis and artificial seeds is the only way out. In the present paper- the types, advantages, production methods and various applications of artificial seeds have been reviewed.

Potentials of hybrid maize varieties for small-holder farmers in Kenya: a review based on Swot analysis

Maize is the primary staple crop in Kenya and plays an important role in the livelihood of the people of Kenya. Its availability and abundance determines the level of welfare and food security in the country. In Kenya, future increases in maize production to meet domestic demand will have to rely on improvements in yield per hectare rather than on the expansion of maize production area. Enhanced maize productivity can be achieved by increased use of modern production techniques such as the adoption of hybrid maize varieties, the use of chemicals and fertilizer application. Small-scale maize production plays a major role in Kenya's maize economy and adoption of hybrid technology by small-scale farmers would have the potential to address sustainability and supply issues. However, such modern technologies are still rarely used by Kenya's small-scale farmers, particularly by those in marginal areas. This study, therefore, tries to review the reasons for the low rate of adoption of hybrid maize varieties among small-scale farmers with focus on those smallholders in Kenya's marginal areas. Lack of awareness of existing or newly released hybrid varieties, lack of hybrid varieties adapted to marginal areas, lack of confidence in the quality of some hybrid maize seeds, poor access to stockists, low profitability due to high seed cost, inadequate access to credit, the need for fertilizer application and low literacy level have been found to be important factors explaining the low adoption rates by smallholder maize producers in marginal areas. In addition, these constraints might also explain the widespread practice of recycling hybrid grain among small-scale farmers once they have adopted hybrid maize varieties. Therefore, it is hoped that by overcoming these constraints, the adoption of hybrid maize varieties among smallholder farmers could be greatly enhanced, which in turn could lead to a significant positive impact on the country's food security situation.

The use of genetic, manual and chemical methods to control pollination in vegetable hybrid seed production:

Production of hybrid varieties of vegetable crops is currently a desired breeding goal, due to their remarkable agronomic performance and to the possibility of intellectual property protection. However, efficient hybrid production requires a careful pollination control to guarantee the hybrid nature of F₁ seed. In this review, we examine the principles underlying strategies like genetically determined systems (genic male sterility, cytoplasmic-genic male sterility, self-incompatibility) and other methods (manual emasculation, chemical-hybridizing agents) in different species, considering the benefits and drawbacks of their adoption. Finally, we present the current state of the art for vegetable hybrid seed production.

RESEARCH METHODOLOGY

Research Design:-

In this project, descriptive research has been used. In descriptive research, a description of the state of affairs, as it exists is presented. Hence, it has no control over the variable, it could only report what has happened. Descriptive research technique is concerned with describing the characteristics of a particular individual or group.

Sources of data

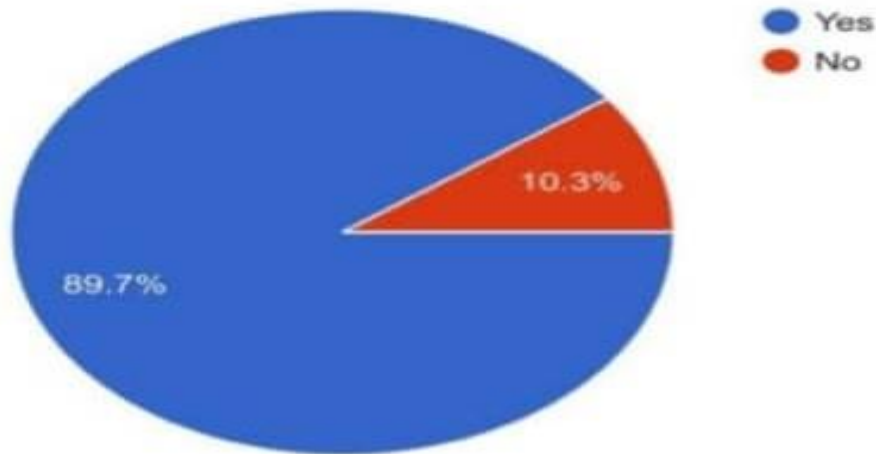
Primary data sources are used to collect the data. Preparing the questionnaire and collecting the information from the farmer.

Secondary data sources are be used to collect the data. Collecting data from Published article.

DATA ANALYSIS AND INTERPRETATION

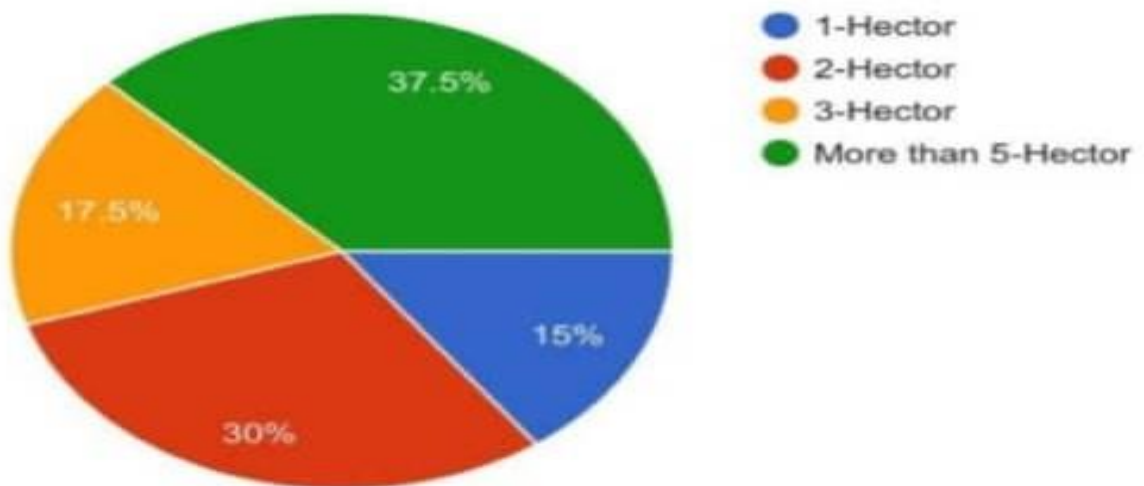
Are you aware about Hybrid seeds?

39 responses



Are of cultivation?

40 responses

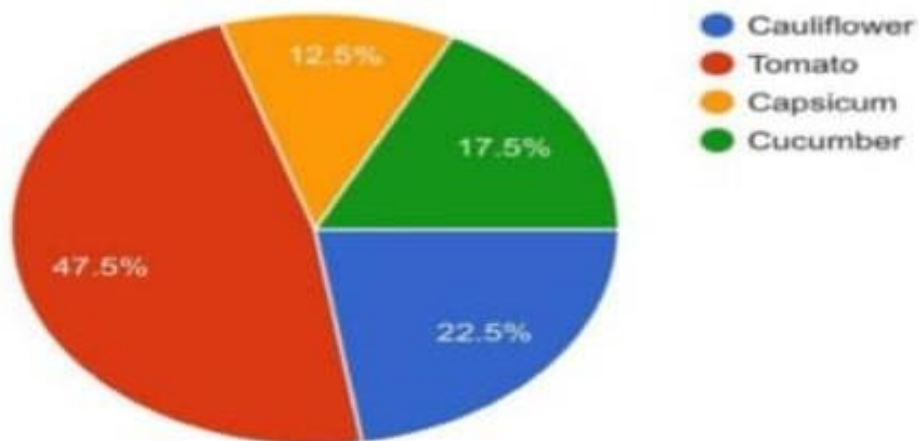


1. there are most of 89.7% farmer aware about the hybrid seed .only 10.3% farmaer have not aware about hybrid seed.

2. 15% of the farmers have below 1 hectare.30% of the farmer have 2 hector.17.5% farmer have 3 hector cultivation land.more then 37.5% famer have above hector.

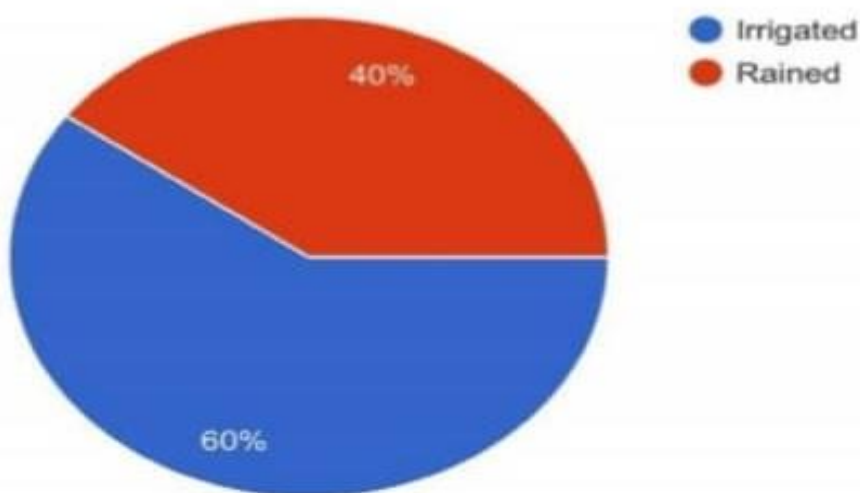
Which type of seed do you prefer for cultivation?

40 responses



Which type of farming land?

40 responses

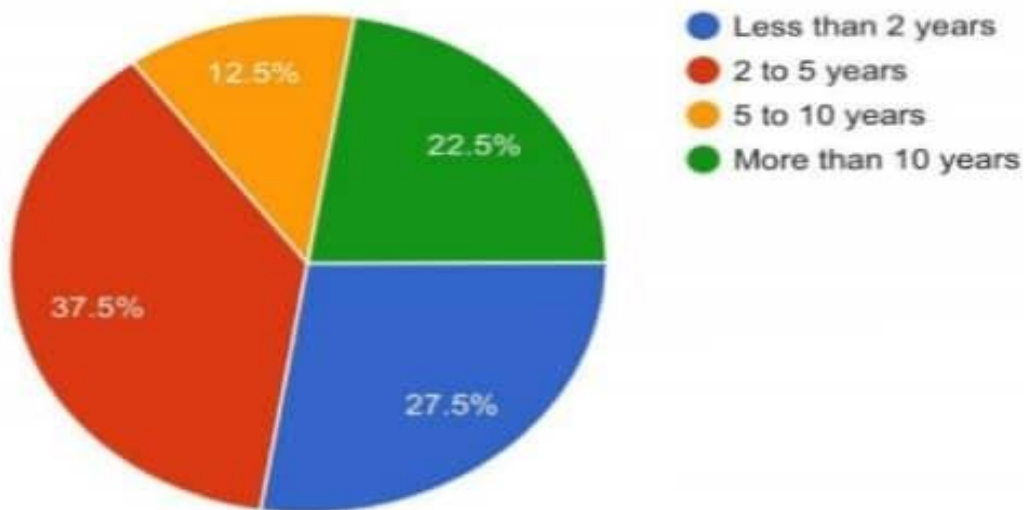


3.47.5% have most of farmers tomato seed prefer.22.5% farmers prefer seed prefer of cauliflower.17.5% famer is use cucumber. and 12.5% farmer is prefere capsicum.

4. there are 60% irrigated land .and 40% have rained land.

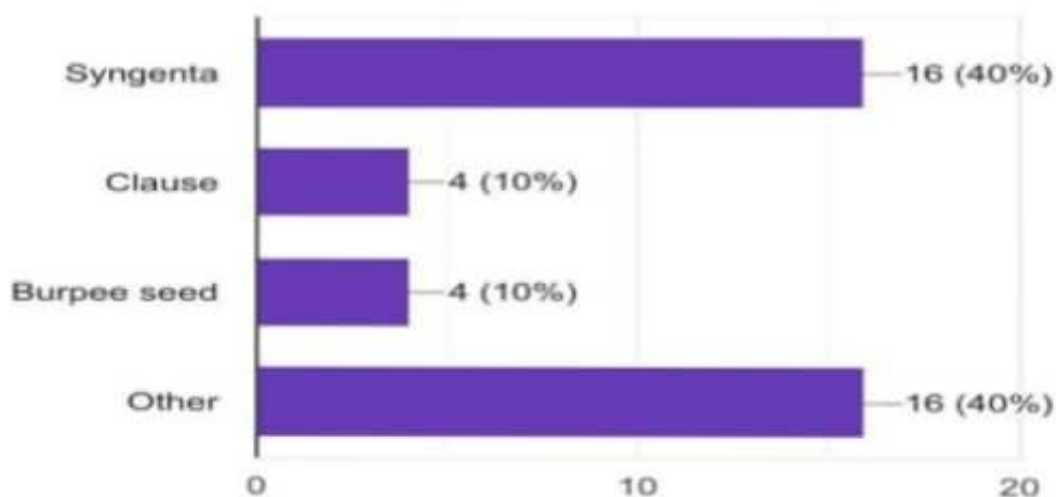
How long you cultivating seeds?

40 responses



which company do you choose as good product provider?

40 responses

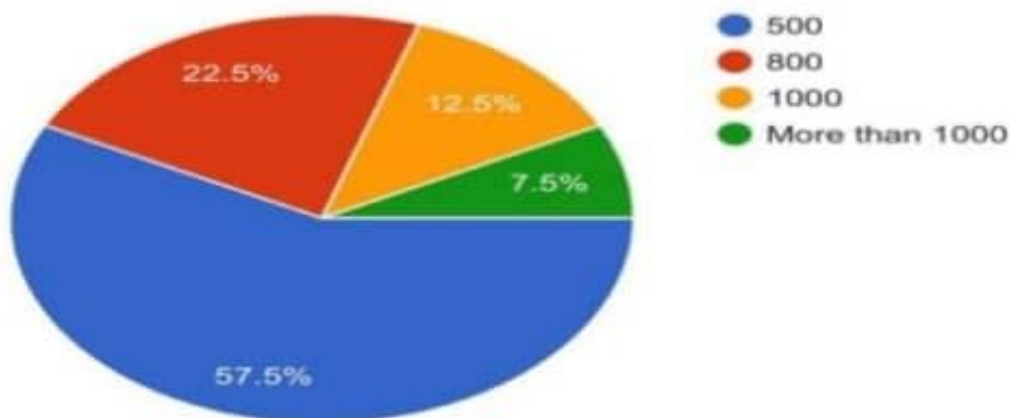


5. 37.5% have most of seeds cultivating seed between 2 to 5 years .less than 2 years have 27.5% cultivating.in 5 to 10 year 12.5% cultivating seed.among the more than 10 year 22.5 seeds cultivating.

6. syngenta and other company are similar and good product provider of 40%. clause and burpee seed are equal and low 10% product provider.

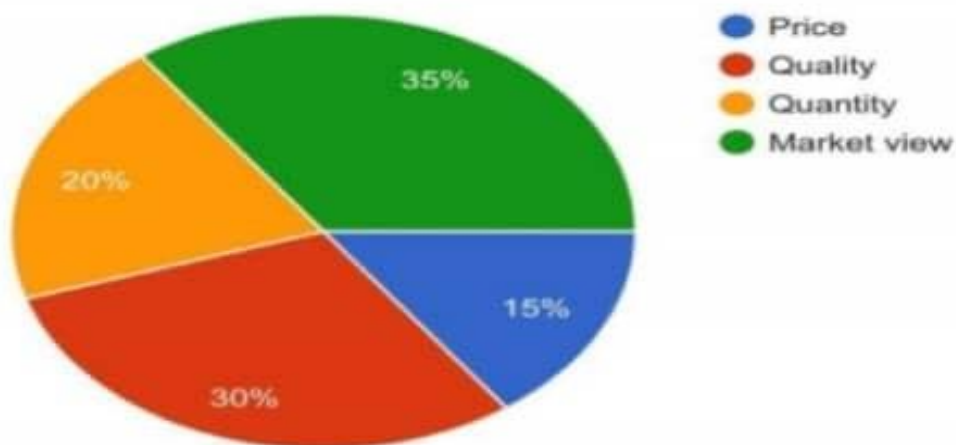
What are the price range do you buy seeds per 10g from syngenta?

40 responses



What basis you purchase syngenta seeds?

40 responses

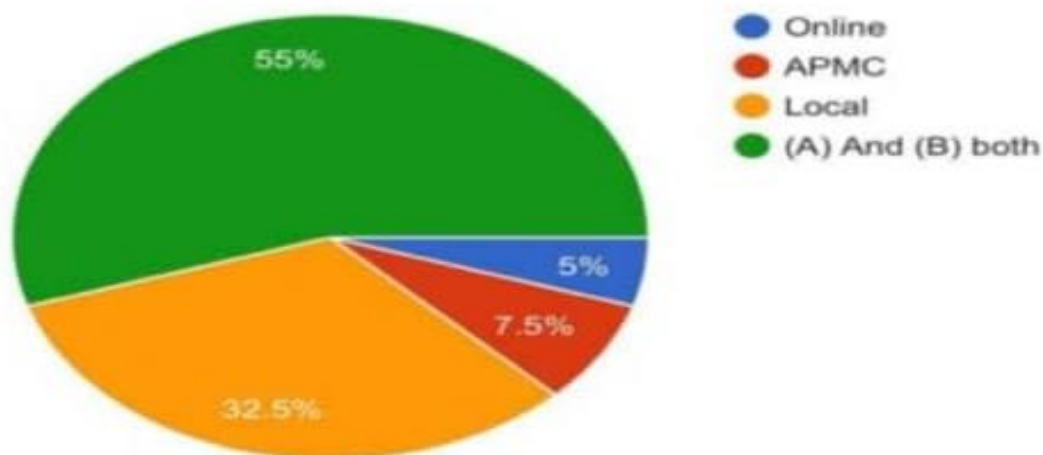


7.500 rupees is the most of buying the 10g seeds of 57.5%. 800 rupees is to 22.5% buying seeds of 10g. in rupees 1000 is to 12.5% seeds buying. the lowest of 10g seeds buying more than 1000.

8.35% seeds of sygneta global basis purchase by the market view.30% seeds of purchase for quality.and 15% and 20% seeds of sygneta global basis purchase for quantity and price.

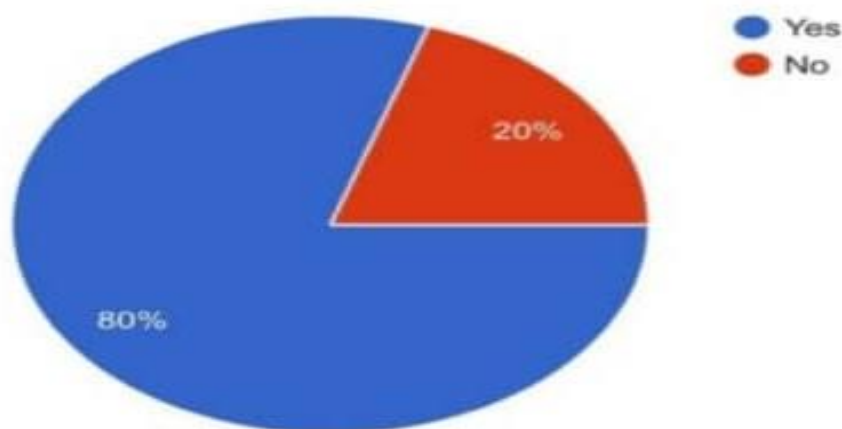
which market you,prefer to sell your seeds?

40 responses



Are you satisfied from syngenta seeds?

40 responses



9.55% seed to sell by the online and apmc and prefer to sell local the ratio of 35%.

10.among the the most of 80% is to satisfied from sygneta global seeds.and only 20% is response negative.

LIMITATION OF THE STUDY :

The limitations of this study was hybrid seed is are more expensive.

SUGGESTIONS :

- 1.the cost of seeds of hybrid varies comparatively higher to comparing the traditional seeds,so the poor farmers not come to use this varieties.
- 2.focus on the farmer need what type the demand and issues like packing,prices.
- 3.the younger generation will come to agriculture sector to knowing the farming works amd inducing new equipments to developing the agriculture sector.

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