

Study on types of crops grown and frequency distribution on seasonal purchase of pesticides

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Abstract: There are two seasons i.e. Rabi season and Kharif season. Different types of pesticides are purchased in these seasons depending upon type of diseases and crops grown, etc. The following table is showing the result of purchase of pesticides in terms of %age in different seasons. Crop wise estimate shows that Rice required more Pesticide reflected by the high mean score of 3.95. Seed is another highly pesticide requiring crop having mean score of 3.72. Vegetable also requires more quantity of pesticides followed by wheat, their mean score being 3.58 and 3.46 respectively. Sugarcane and Sunflowers required less quantity of pesticides in comparison to other type of crops. Cotton requires lesser pesticides (mean 1.92). Study concluded that Rice is a major crop, which requires more quantity of pesticides. Before making purchase decisions farmers consider various factors such as reference group, dealer/retailer, company representative, advertisement, etc. Data have been collected on four-point interval scale.

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Keywords: Pesticides, Crops Growth, Seasonal Purchase.

Introduction:

Pesticides are chemicals and mixture of chemicals used for killing, repelling, mitigating, phasing or even regulating (depending on the stage of the pest) with a view to minimize the damage by pests to the crops. Pesticides are a group of chlorine agents used in plant production, public health programmes, and household sprays and also for fumigation of storage god owns for the protection of agricultural crops. In agriculture, the uses of pesticides starts from the pre-sowing where seeds are treated against seeds born diseases.

In recent years, scientists have has been carefully examining the ways that people affect the environment. They have found that we are causing air pollution, deforestation, acid rain and other problems that are dangerous both to earth and to ourselves. These days, when you hear people talk about “the environment”, they are often referring to the overall conditions of our planet, or how healthy it is. As the world population is ever increasing, there is a necessity of mobilization of agricultural resources in future, even more then in past. The fight against harvesting depressing factor is among the most important measure for reaching that objective and use of plant protection chemicals, an import weapon for it. A weapon even when used for a good cause can become dangerous. When considering the toxicity of pesticides, one must keep in mind that any chemical substance is toxic or poisonous if taken in excessive amount, whether it is pesticide, common salt or even sugar.

The assumption can, therefore, be made that pesticides can be harmful. They are designed, as we all

know, to be poisonous to kill the pest for which they are used against. There are, however, great ranges of harm ness of pesticides depending upon their nature. There is world wide concern about their use because pesticides injure non-target organism, such as human, livestock, wildlife, insects, birds, fish and plants. According to Monbray (1988) 6,00,000 tones of pesticides are exported to developing countries. Studies have shown that less then 0.1% of applied pesticides actually reach the target pests and remaining 99.9% have potential to move into soil, water and in atmosphere (Young & Weignianm, 1988). Therefore it is necessary to consider the harmful effect of agricultural pesticides.

Materials and Methods:

Sampling

Multistage sampling method was followed for this study. At the first stage north Haryana was taken as universe. At the second stage, in the north Haryana, three districts namely Ambala, Panchkula & kurukshetra were selected. In each district two blocks were selected. From each block 25 farmers were considered as a sample. Overall in the present study, 150 respondents (farmers) has been considered as a sample.

Data Collection

Data collection is very important step because with the help of collected data only, we will be able to reach the conclusion. There are two sources of collection of data i.e. primary source and secondary source.

1. Collection of secondary data: The secondary data has been collected from various

magazines, journals and different university libraries. A few of websites like www.pmfai.org, www.pestinfo.org were also searched for collection of secondary data.

2. Collection of primary data: The primary data was collected with the help of a schedule. Although there are various methods for the collection of primary data but schedule method was found to be the most objective, reliable and valid one. Thus, in the present study keeping in mind the nature of respondents, it was considered advisable to use schedule to arrive at fair assessment of variables included in the study. An attempt was made to cover the maximum aspects of the impact of pesticide on the environment while drafting the schedule. The schedule was finalized after the comment of different experts.

The final schedule consists of questions like:

1. Demographic information like age, education and income.
2. Information relating to types of crops and kind of pesticides use.
3. Information regarding factors influencing purchase decision of pesticides.
4. Information relating to the side effect of pesticides on environment.
5. Information relating to the ingredient of environment, which is generally affected by the pesticides.
6. Information regarding the methods to save the environment.
7. Information relating to overcome the side effects of pesticides.

Statistical analysis of data

Researchers may amass a mounting of data, but these data are useless unless the findings are analyzed in the light of problem at hand. The term analysis refers to the computation of certain measures along with researching for patterns of relationships that exists among data groups. This method of data analysis includes procedures for classifications, coding, tabulation and statistical analysis of raw data.

Results and Observation:

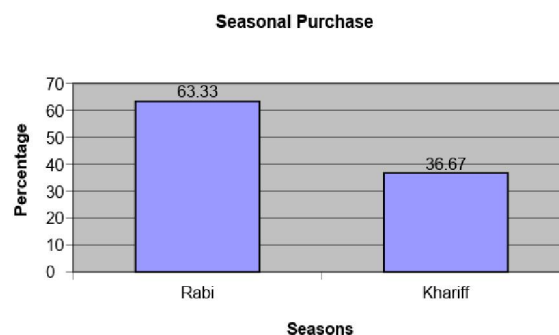
There are two seasons i.e. Rabi season and Kharif season. Different types of pesticides are purchased in these seasons depending upon type of diseases and crops grown, etc. The following table is showing the result of purchase of pesticides in terms of %age in different seasons.

From the table it is clear that purchase of pesticides depends upon seasons also. 63.33% farmers are saying that more pesticides are purchased in Rabi season and 36.67% farmers are of the opinion that more pesticides are purchased in Kharif season. Rabi crops are more susceptible to the disease due to which

pesticides requirements are more in comparison to Kharif crop are less susceptible to disease.

Table 1: Frequency distribution on seasonal purchase of pesticides

Seasons	Frequency	Percentage
Rabi	95	63.33
Kharif	55	36.67



The quantity of pesticides used by the farmers depends on the type of crops grown. Some types of crops need more quantity of pesticides while other needs less quantity of pesticides. Data have been collected on four-point interval scale and results have been summarized in the table – 2.

Table 2: Mean and Standard Deviation on types of crops grown & pesticides used

Variables	Mean	Std. Deviation
Wheat	3.46	0.65
Sugarcane	2.69	0.70
Sunflower	2.37	0.48
Cotton	1.92	0.49
Rice	3.95	0.23
Vegetable	3.58	0.89
Seeds	3.72	0.80

Crop wise estimate shows that Rice required more Pesticide reflected by the high mean score of 3.95. Seed is another highly pesticide requiring crop having mean score of 3.72. Vegetable also requires more quantity of pesticides followed by wheat, their mean score being 3.58 and 3.46 respectively. Sugarcane and Sunflowers required less quantity of pesticides in comparison to other type of crops. Cotton requires lesser pesticides (mean 1.92). Study concluded that Rice is a major crop, which requires more quantity of pesticides.

Before making purchase decisions farmers consider various factors such as reference group, dealer/retailer, company representative, advertisement, etc. Data have been collected on four-point interval

scale and results have been summarized in the table – 3.

Table 3: Mean and Standard Deviation on factors influencing purchase decision

Variables	Mean	Std. Deviation
Reference Group	3.73	0.45
Dealers	2.45	0.73
Advertisement	2.17	0.92
Company Representative	1.96	1.02
Krishi Vigian Kendra	1.37	0.62
Opinion Leader	3.36	0.91
Family	2.95	1.03
Wall painting	1.87	0.64

It is clear that reference groups and opinion leaders which include Zamidars are having more influence on farmers for purchasing pesticides their mean score being 3.36 and 3.73 respectively. Family and Dealers are also having influence on farmer decision to purchase pesticides, mean score being 2.95 and 2.45 respectively. Advertisement is another factor, which influence farmer decision (mean 2.17) because they are getting more information about pesticide through advertisement. It is followed by Company representative and Wall paintings, mean score 1.96 and 1.87 respectively. However, Krishi Vigian Kendra, which are working as government extension counter are having least influence, may be because of less farmers are visiting these places for guidance. These findings indicate that farmers are highly influenced by reference groups and opinion leaders.

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