Paradigm shift in agricultural/horticultural production system through GAP to fill the gap between potential yield and yield obtained.

ABSTRACT

India is an agriculture-based country which is a very important and ancient enterprise of the whole world. It supplies food, fruit, vegetables, flowers to worship and decorate around the world. Apart from India there are any countries that are dependent on agriculture. It is the backbone of new industries like Sugar, Cotton etc. Krishi Vigyan Kendra, Sabour, Bhagalpur works in wide array of situations. It deals with sixteen blocks. Few blocks face flood in rainy seasons like Kharik, Naugachia, Biharpurm, Nathnagar, Sultanganj, Goradih and Gopalpur. Few of them have flood drought situations like Pirpainti, Kahalgaon, Sanhawla. Jagdishpur is the only block that always favoured that is husk of Katarni rice production. Katarni rice has GI Lag. Jardalu mango is very juicy tasty mango from Blangal district also having GI lag. Due to poor management practices or there is big gaps/distances between yield and potential yield. Difference in potential yield and yield obtained is the ultimate loss of farmers. FAO has published training manual for good agricultural practices for fruit and vegetables crops. To attain the potentiality of any crop farmers should follow the GAP(Good Agriculture of Practices) of that crop Naved Sabit et.al(2010) also and vacated for good practices of plant protection in different crops.

INTRODUCTION

Agriculture is backbone of India. There is no food, fruit, vegetables, milk, fish, meat without agriculture. Agriculture is good balance of field crops, horticulture and animal husbandry. Agriculture is itself a allied sector of botany. For optimum production of any sector farmers/grower should perform with concept or precision. Good agricultural practices (GAP) play a very vital role in optimisation of yield and quality of particular crop [1-3].

Good Agricultural Practices : Practices aimed at improving the quality, safety and sustainability of food and different agricultural products with maintenance of environmental, economic and social sustainability Puja Dudeja et.al (2018) have advocated the importance of good practices [4,5].

In Krishi Vigyan Kendra Bhagalpur deals with sixteen blocks in different climatic situation. Sultanganj, Nathnagar, Sabour, Goradih, Kharik, Naugachia, Gopalpur and Narayanpur these are the blocks which faces flood situation [6]. In the mid of august of end of august, Ganges flood drain off the standing crops and whatever it may be. The most of the farmer in Diarah land are in loss. They are in need of maximum yield in rabi and garma. They should follow the concept of precision farming, good practices like high yielding and disease free variety with good market prices along with good storage facility. Same time a block Jagdishpur is hub of Katarni rice production that hold geographical indication lag. Farmers are unable to cultivate the Katarni due to how rainfall or lack of rainfall. Katarni is a scented and sweet rice. So there is huge attack of insect and pest during flowering and milking stage. FAO, UN, has published a manual in volume one for different crops for good agricultural practices. Time to time different societies that is related to agriculture produced the different good agricultural practices in particular crop. Grower, scientist should be aware to fill the gap with GAP.

Materials and Methods :

Krishi vigyan kendra sabour lies in the midle of sabour block on the bank river ganges .Mango is the predominant horticultural crop of the district followed by pointed gourd and banana All tree crops are deteriorating day by day due to lack of proper management. Being in Krishi Vigyan Kendra its working area is whole district . During off campus training, diagonastic visit ,chaupal and other programme on farmers field doucumented the good agricultural practices in different crops . These are as follows

table 1 : Field documentation

Serial No	GAP	Crop	effect
01	Planting banana trees at the corner of orchard	Mango and litchi	Attract the termites
02	Grow turmeric as intercrop in orchard or any other crop	Mango .litchi. papapya	Control termites and other insect too
03	Planting custard apple	mango	Control fruit fly and other insects
04	Grow Bengal gram in banana	banana	Control nematode
05	Make bund of maize husk in any crop	Any crop	Confined the termite
06	Spray of egg water on crops	Any crop	Repeal the monkeys
07	Spreading of cowdung in the field	Any crops	Repeal monkeys
08	Follqw 1: 9 ratio of male and female in planting pointed gourd against the recommendation of 1;5	Pointed gourd	To avoid the hyper growth of male vines
09	Removal of lower leaves of maize for early planting of mint	mint	Develop microclimate for mint development

These are few enlisted indigenous good agricultural practices that are helpful in enhancing the yield ,quality and helpful in optimizing the yield and also controlling the insect pests. If we make a survey on national level lots of GAP can be identified and doucumented for farming community and R&D sectors too. Use of light trap in cucurbitaceous crop to control fruit fly is very good example of good agricultural practice that percolated at farmers field at national level. Recently , two days fron 14-15.3.23 an international seminar was conducted at MANAGE Hyderabad by Dr Veenita kumari on Urban and Peri Urban Agriculture : good practices and innovation. In this seminar too local good practices were doucumented for farming community .

Result and discussion ;

Surely ,the day is coming in agriculture is very tough and with new challenges in every crop. Mango is the major horticultural crop in Bhagalpur district faces new challenges every year. Sometimes

there is heatwaves badly influences the flowering of early varities like Bombay , jardalu,gulabkhas etc. sometimes there is high temperature followed low temperature create hinderance in flowering of mango . some authentic good practices are required ,discovered and documented to save the mango crop for consistent yield . Planting wind break to control the impact heat and cold waves . To somehow it is helpful in mitigating the problem .Growing Sanai as in intercrop in mango/litchi orchard after harvesting the fruits also moderate the climate and help the crop to fight against adverse situation,Menila Kharel et.al (2022) has advocated the importance of good practices in agriculture.

The most important [art about good agricultural practices is not so invasive in energy need not big financial support. To follow GAP in any crop requires knowledge with precision. According to Food and Agriculture organisation of United Nations Good Agricultural practices are practices that address environmental economical and social sustainability for on farm process and result in safe and quality food and non-food agricultural products. For example, in Pirpainti block of Bhagalpur district there is scarcity of water so to conserve water level. Farmers are sowing moong in their orchard that act as cover crop or mulch the soil. Day by day cost benefit ratio is depleting due to high cost of agricultural inputs. In that scenario follow the good agricultural processes with authenticity and precision is good for enhancement of agricultural/horticultural production with sustainability. Good agricultural practices will be surely viable and sustainable if knowledge at all levels. Here are few enlisted categories of knowledge.

1. Knowledge of crop science
2. Physiological effect of application of certain element
3. Requirement if crop at a particular level
4. Fertilisation
5. Fertilizer application
6. Crop regulation
7. Post harvest management
8. Marketing of produce

Of course, good agricultural practices is bright side of any agriculture/horticulture production system sustainability to mitigate with the problems of climate change is a tough task. Good agricultural practices may be a PATH to combat against all odds.

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