

Highlights of Horticultural Researches at Institute of Agriculture and Animal Science

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1. Introduction

Horticulture is the largest subsector that accounts 38% in total agriculture gross domestic product of Nepal (MoALD, 2018). Within horticulture, researches are widely distributed in different disciplines such as pomology, olericulture, floriculture and ornamental horticulture, postharvest horticulture and more than one disciplines of horticulture.

Among various institutions currently working in horticulture researches, Institute of Agriculture and Animal Science (IAAS) is a leading institution due to its postgraduate program with the compulsory requirement of field research to accomplish the degrees. IAAS has started postgraduate program since 1998 initially in few departments and later in 17 departments including horticulture. Most of the researches conducted so far are applied type and short duration research to fulfill the requirements for the degree. This paper aimed to document the types of researches so far conducted in different disciplines of horticulture and in different crops. This piece of information could be an important basis to extract the relevant information and to direct further researches for the development of horticulture sector.

2. Methodology

All abstract of the theses available within the library and official records of IAAS were reviewed and categorized them based on their disciplinary sciences namely pomology- all fruit crops; olericulture – including potato and sweet corn; floriculture and ornamental horticulture; spice and condiments- onion, garlic, ginger, cumin and coriander; postharvest horticulture and cross-cutting issues. Further, all abstracts were grouped based on the crops and their taxonomic position such as fruits, cole crops, potato, solanaceous crops, bulbous vegetable, root crops and others.

3. Results and Discussion

There were 116 researches conducted so far under the department of horticulture at IAAS. Majority (46%) of researches were conducted in vegetable crops in particular to the cole crops (Figure 1a,b). Researches belong to fruit crops, ornamental horticulture and post-harvest horticulture accounted 15%, 12% and 8% of total, respectively.

In vegetables, most of the researches were variety evaluation, nutrient management and spacing while some researches were related to crop improvement and seed production. In crop groups (Figure 1b), cole crops dominated to others that might be due to short duration and widely cultivated crops throughout the country.

In fruit crop management and crop improvement, there was no single research in crops such as grapes, peach, plum, apricot, brussels sprout, kiwi, pomegranate etc. Only one research was conducted in strawberry, sweet potato and apple. Landraces evaluation, grafting, use of PGR, nutrient management were the major areas in fruit crops.

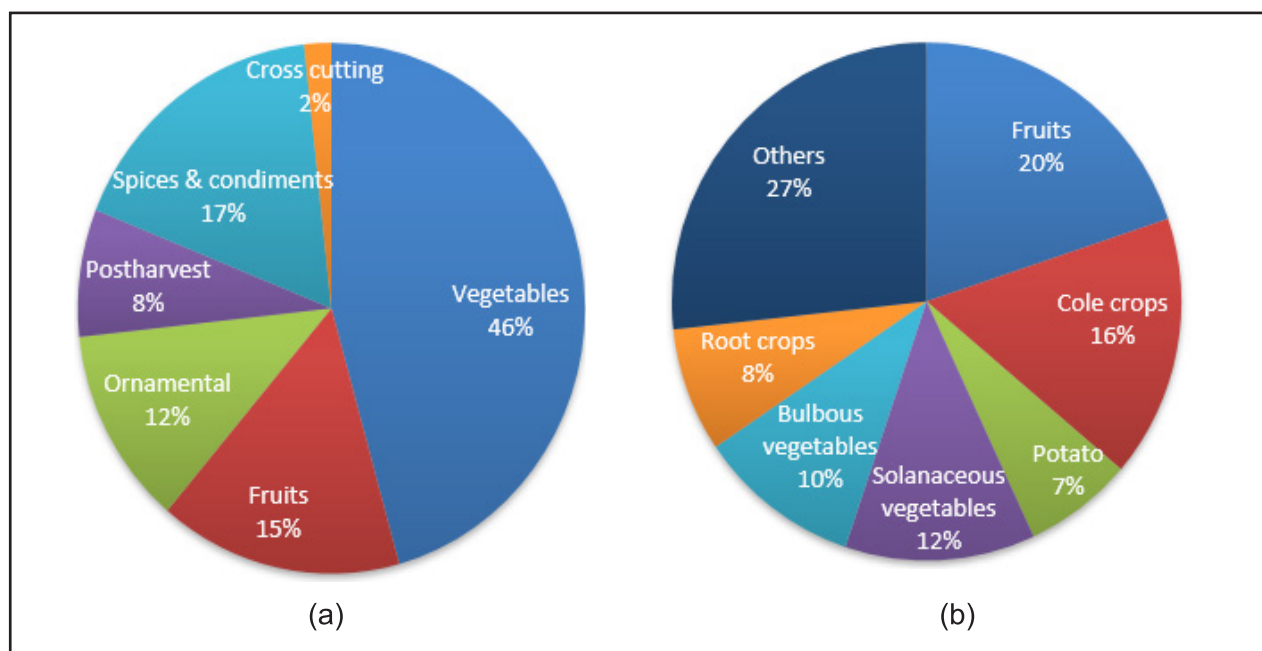


Figure 1: Distribution of theses/research in different disciplines (a) and crop group (b) of horticulture conducted at post graduate program, IAAS, (1998-2015).

Postharvest handling and management practices accounted 8% of total researches (Figure 1a). Onion, litchi, carnation, banana, rose, gerbera, cauliflower and apple were the crops used to test response of different treatments, viz. nutrient management, PGRs, growing location and cultivar, vase solution, modified atmosphere packaging etc.

In ornamental and floriculture, gladiolus, rose, tuberose, marigold were the major crops of choice for planting material, pruning, pinching, variety evaluation and nutrient management. Researches related to crop improvement and physiological aspects of crops are extremely limited that might be due to the limitation physical and laboratory facilities.

4. Conclusions

Postgraduate program of IAAS has conducted 116 researches during 1998-2015 in different spheres of horticulture. The technologies so far developed are not easily available and accessible. Efforts need to be directed for the dissemination and easy access of information, so that the duplication of researches can be minimized.

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