The Importance of Horticultural Extension in Reducing Post-harvest Losses in Iran

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Abstract
Iran is one of the world’s top ten horticultural producers. However, post-harvest losses in Iran are six times greater than the world average. Even after establishing an Agricultural Extension Service, Iran still experiences great problems in reducing post-harvest losses. As the major reason for the continuing loss is the failure of the Extension Services to adequately address the problem, this paper will explore various means of improving their performance.

INTRODUCTION
Although agricultural losses in the developed countries vary between 5-7%, in Iran this amount often exceeds 50% (Zhaleh-Rezaei, 2003). Officials report post-harvest losses as being 6 times greater than the world average (Rouh-al-Amin, 2003), while non-officials estimate it to be between 35-70% (Shayesteh, 2003). If we assume even a 35% loss, for the 44 million tonnes of agricultural products produced in Iran, the value of the losses collectively exceed US$100 million per annum.

As officials have now realized the importance of post-harvest losses to the horticultural industry, the Iranian government is currently implementing various programs to control and reduce the post-harvest losses in horticultural products.

HISTORY OF AGRICULTURAL EXTENSION IN IRAN
Agricultural extension in Iran consists of two periods (Amirani, 1999). In the first period (1938-1949), with no formal organization in charge, only sparse activities were conducted to develop agriculture in Iran. In the second period (1949-1953), with the cooperation of FAO and the USA, the first steps were taken toward establishing an Office for Agricultural Extension. However, it was not until 1955 that Agricultural Extension was officially founded as an organization to distribute seeds and seedlings to the rural areas. It was not until after the Islamic Revolution that an Office of Extension was established in the Ministry of Agriculture (Malek-Mohammadi, 1999). Today, this office mostly focuses on improving the productivity of agricultural products.

CURRENT STATUS OF POST-HARVEST EXTENSION ACTIVITIES
Post-harvest extension activities in Iran have mostly focused on reducing losses in grain storage. Until now, the Extension Office has only published a few brochures on post-harvest for a few horticultural products such as citrus, pomegranate and dates, regardless of the needs and sensitivity of each crop. For example, despite having the highest production and being one of the most sensitive products to post-harvest deterioration, apples have yet to be considered. Furthermore, these brochures have not been widely distributed to producers and market intermediaries.

PROBLEMS CAUSING GREAT POST-HARVEST LOSSES IN IRAN
Reducing post-harvest losses in Iran face many different problems which we can broadly consider under two main headings: the agricultural policies of the government, and the lack of producers and market intermediaries knowledge.

Agricultural Policies
During the past decade, two separate ministries were responsible for the agricultural sector: the Ministry of Agriculture and the Ministry of Jihad-e-Sazandegi. More recently, these two ministries have been combined to form a new Ministry of Jihad-