

Agricultural losses

The background is a light teal color with a subtle gradient. It is decorated with various leaf and flower silhouettes in a darker teal shade, scattered along the left and right edges.

Introduction

Reducing agricultural losses is considered as a vertical development of limited cost. Its investment return is mostly greater than that obtained from other similar projects which achieve revenues in the fields of vertical and horizontal expansion. Consequently, interest in agricultural losses' studies has increased in recent years, in many countries of the world, in order to find ways to reduce it at all production levels.

Mass Production losses of the Most Important Vegetable Crops In Qatar

Crop	Open Field	Protected Greenhouses
Tomato	4%	3.2%
Cucumber	--	4.2%
Squash	5.1%	--
Cantaloupe	6.3%	4.2%

Effect of Sowing Time on Mass Production Losses

Crop	% losses	
	Timely Sowing	No timely Sowing
Tomato	3.2%	4.9%
Cucumber	3.7%	4.9%
Squash	4.1%	5.7%
Cantaloupe	4.7%	7.9%

Farm Condition and Its Effect On Losses

CROP	Rented	Not Rented
Tomato	2.9%	3.9%
Cucumber	4%	4.4%
Squash	4.7%	5.9%
Cantaloupe	5.2%	6.7%

Distribution Of Mass Production Losses in Kg.

CROP	Quantity of losses/ Dunum (=1000 m ²)	Distribution Of Mass Production Losses in Kg.			
		Insect & Fungal Injuries	Weather Conditions	Insufficient Fertilizer Application	Others
Tomato In Open Field	217	172	28	14	3
Cucumber	227	140	--	43	44
Squash	152	119	14	9	10
Cantaloupe	162	133	11	--	18

Most Important Reasons For Production Losses

CROP	PERCENT (%)			
	Tomato	Cucumber	Squash	Cantaloupe
Inefficient Pesticide	15%	23%	24%	15%
Weed spread in crop	17%	--	19%	10%
Farm workers inexperienced	13%	27%	25%	13%
Climate Factors	13%	--	9%	7%
Poor Pest Control	9%	15%	6%	15%
Others(Soil & water salinity, weak seedlings etc.)	33%	35%	17%	41%





Relative Importance Of Problems Facing Diseases Resistance

CROP	Tomato	Cucumber	Squash	Cantaloupe
Sufficient Well-trained Workers	22%	29%	41%	39%
Sufficient Efficient Pesticides	53%	44%	47%	30%
High Price Pesticides	25%	15%	13%	13%
Other	--	13%	--	18%

Mass Marketing Losses at Farm Level

Crop	Mass Marketing Losses (%)	
	Open Field	Protected Greenhouses
Tomato	3%	3.2%
Cucumber	--	3.6%
Squash	2.3%	--
Cantaloupe	2.5%	2.4%

Specific Marketing Losses Of The Most Important Vegetable Crops

Crop	Mass Marketing Losses (%)	
	Open Field	Protected Greenhouses
Tomato	2.6%	2.4%
Cucumber	--	3%
Squash	2.8%	--
Cantaloupe	2.2%	1.4%

Distribution Of Mass Marketing Losses in Kg.

CROP	Quantity of losses/Du num (=1000 m2)	Distribution Of Reasons Of Production Losses (kg.)			
		Poor Worker Skill level	Weather Conditions	Lack Of Attention To Marketing Operations	Others
Tomato In Open Field	290	135	104	30	21
Cucumber	281	90	97	43	51
Squash	142	81	43	12	6
Cantaloupe	114	37	51	13	13

Reasons For Mass Marketing Losses

CROP	Tomato	Cucumber	Squash	Cantaloupe
Insufficient Number Of Workers In The Farm	16%	22%	14%	12%
Climate Conditions	15%	13%	19%	17%
Poor Worker Skill level	12%	19%	19%	17%
Lack Of Space For Sorting and Grading	14%	6%	12%	2%
Lack Of Space Well-equipped For Sorting and Grading	18%	12%	5%	11%
Others	25%	38%	31%	41%

Reasons For Specific Marketing Losses

CROP	Tomato	Cucumber	Squash	Cantaloupe
Poor Worker Skill level	22%	40%	35%	38%
High Temperature	25%	15%	22%	15%
Delays In Sorting and Grading operation	30%	13%	15%	10%
Lack Of Space Allocated For Sorting and Grading	13%	18%	18%	10%
Others	11%	15%	10%	27%

The Agricultural Sector Losses Due To Losses At Nationwide Level

(Thousand Qatari Riyals)

Details	Kind of Losses	Tomato	Cucumber	Squash	Cantaloupe
Agricultural Product	Production	666	1011	1068	190
	Marketing	906	1521	999	140
Total Losses Of the Product		1572	2532	2067	330
Wholesale Trader	Marketing	482	641	458	92
Retail Trader	Marketing	3899	2889	1365	295
Total Losses At the Nationwide Level		5953	6062	3890	717

Analysis Of Dates' Losses



Quantity of Production Losses of Dates At Farm Level

Grown Species	% losses
Khalas	12%
Khinaizi	11.9%
Shishi	10.6%
Berhi	9.2%
Other Species	11.2%

Distribution of Mass Production Losses in Kg.

CROP	Quantity of losses/ Dunum (=1000 m ²)	Distribution of Reasons Of Mass Production Losses in Kg.		
		Insect Injuries	Fruit Atrophy (leanness)	Fruit Falling
Khalas	156	57	68	31
Khinaizi	182	86	73	33
Shishi	170	79	85	6
Berhi	200	91	100	9

Reasons of Mass Losses of Dates

Details	%
Inefficient Chemical Control	7%
Poor Disease Control	14%
Poor Workers' Skills	18%
Inefficient Cultural Practices	9%
Natural Fruit Falling	23%
Others	29%

Mass & Specific Marketing Losses Of dates

Species	Mass Marketing Losses	Specific Marketing Losses
Khalas	5.7%	2.2%
Khinaizi	6.0%	2.2%
Shishi	6.2%	2%
Berhi	6.4%	2.6%

Reasons For Mass Marketing Losses Of Dates

Reasons	%
Poor Level of Workers	23%
Poor Marketing Operations	39%
Lack Of Cooled Stores	13%
Poor Level Of Packages	14%
Others	11%

Reasons For Specific Marketing Losses of Dates

Reasons	%
Poor Level of Workers	18%
Falling of Fruits And Its Poor Quality	25%
Delays In Carrying On Sorting & Grading	13%
Lack Of Marketing Guidance (Extension)	19%
Others	28%

Distribution of Marketing Losses in Kg.

CROP	Quantit y of losses/ Dunum (=1000 m2)	Distribution Of Reasons Of Production Losses (kg.)			
		Poor Worker Skill level	Fruit Falling	Lack of Marketing Guidance(Ex tension)	Others
Khalas	89	39	13	21	16
Khinaizi	108	38	14	23	33
Shishi	116	45	12	33	36
Berhi	139	55	11	31	42

Losses Of Qatari Agricultural Sector Due To Losses of Dates

Details	Losses Value(1000 Qrs.)
Production Losses	12014
Mass Marketing Lossess	5813
Specific Marketing Losses	1834
Total Marketing Losses	7647
Total Value of Dates At Farm Level	19661

First : Recommendations to Reduce losses In vegetables

- ❑ Increase efforts paid to control insect and disease injuries.
- ❑ Realize the importance to appropriately use herbicides before and after sowing and to ensure the need to hoe the land.
- ❑ Realize the need to use effective and safe pesticides for vegetables since it has an important and vital role in reducing percent of production losses>
- ❑ Recommend farm owners on the right time to sow vegetable crops.
- ❑ Enhance the organization of specialized courses and seminars on post-harvest topics of vegetable crops.

- Enhance the role of agricultural extension in the field of marketing of vegetable crops aiming at the post-harvest technology transfer to farm owners.**
- Accuracy in carrying on sorting ,grading and packing operations and ensure that these operations are done by the farmer.**
- Encourage direct interaction between the producer and the end-consumer to assist arrive at a short marketing route.**
- Encourage protected farming of vegetables.**
- Place a well studied practical plan to eliminate vegetable diseases that have an obvious impact on increasing the percent of production losses. Important ones are borers for tomato ,the green worm for cucumber, worms and cucumber fly for squash, cucumber fly and borers for cantaloupes. Also to go for applied research on the control of these diseases.**
- Encourage farm owners on not to delay sorting and grading operations after crop harvest and to make them aware of the effect of such a delay in terms of increasing losses and subsequent reduction in the product price.**

- ❑ **It is important to point-out to farm owners the importance of preparing a shadowed area for sorting and grading operations immediately after finishing crop harvest operations.**
- ❑ **Ensure awareness of exact fertilizer requirements as appropriate for the grown crop and to pay effort to avoid fertilizer application deficiency.**
- ❑ **Farmer to contact workers of the right skills and in a sufficient number to carry on all farm activities.**
- ❑ **Utilize the results of the study in statistical calculations specially those linked to food balance.**
- ❑ **Increase options of easy funding for producers, whole sellers and importers in the fields of building cooled stores and modern means for transporting agricultural products to markets.**
- ❑ **Develop and organize different markets(whole selling – Retailing).**
- ❑ **Utilize modern technologies of sorting, grading , packing and other marketing functions and services in connection to their obvious role in reducing percent of losses.**

- ❑ Reduce the time lap between the harvest of vegetables and their transport to markets where a lengthy period will have a direct effect in increasing the percent of losses.**
- ❑ Increase the adoption of carton packages through directing a major portion of the fund given to farmers towards this type of funding in order to assist reducing losses to the maximum possible.**
- ❑ Increase care to marketing operations and concentrate on applied research and studies covering marketing aspects.**
- ❑ Encourage farm owners and farm leasers (renters) to bring in agricultural engineers and technicians, elevate the technical efficiency of farm workers, select appropriate suitable workforce from countries of similar environment and resources.**
- ❑ Government contribution by establishing an up to date center for sorting and grading.**
- ❑ Ensure the importance of establishing a specialized marketing company which will buy products from farm owners and do the marketing in a suitable good manner.**
- ❑ Suggest the establishment of a temporary worker market to provide with sufficient numbers at high need points in the same way as being done for cleaning and house service companies.**

Secondly: recommendations for reducing losses of Dates

- Provide with training courses in the field of post harvest of dates**
- Pay attention to operations of marketing of Dates.**
- It is important that farmers will contract sufficient workers of appropriate skills.**
- Adoption of necessary measures to eliminate red beetle of date palms since results has shown that it among the most important reasons for losses.**
- Encourage applied research and studies in relation to the specification of water and fertilizer needs of date palms.**
- Taking care of irrigation operation and application of calcium element to date palm trees in order to reduce fruit leaning and falling.**
- Encourage farm owners to rapidly carry on sorting of dates immediately after harvesting so as to reduce marketing losses to the maximum possible.**
- It is important to encourage Date farmers to prepare a shadowed space where to sorting and grading will take place. Study the real reasons behind Date fruit leaning which is considered among the most important reasons that lead to production losses.**