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The Effects of Grafting-Varaiety Combunations to every year Productivity Indigators and Effective Fruit Fallling on Pear Plant

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In the article is assigned information about useful fruit falling and productivity every year in the combinations different grafting-varieties of the pear. The research was carried out in the Guba and Gusar regions of the north-eastern of country. The researches were carried out; in the Dakhli village of Guba region, on the grafting wild forest pear, 6x4 m food area, with Khure which was planted in 2004; The sorts as beauty of Talgar, white Williams, beauty of forest in the New life village of Qusar region on the graftin BA-29, 4x1.25m food area, planted in 2008-2009; The varieties as conference, white Williams, red Williams, Forelle and Quyot which were cultivated in the trellis and has been installed drip irrigation system The research was carried out by generally accepted methods for gardening. At this time, every two years productivity index was calculated by a Sinq formula. According to the index varieties and years are considered: 20% - up indicator - highly stable harvestable; 21 ... 40% - to compared stable product each year; 41 ... 60% - Average degree of every two years harvestable; 61 ... 80% strong harvestable every two years; 81 ... 100% more powerful harvestable every two years.

Keywords: Pear plants, Grafting, Useful fruit falling every year, Productivity.

It is known that, the time for fruit and berry plants to give natural harvest depends at the maturity level stage of plant, biological characteristics of the genus and species, geographical conditions, variety of grafting, applied technological treatment and forms of umbrella and other conditions[1,4,5,6,7,8,14].

Amino acits,mulching, hrebicides, fertilisers and other factors effects to the productivity and chemical composition of pear plant[9,13,15]. BA29 grafting is effecting to all of biometric and productivity indicators at pear plant[10, 11,12,16].

Some groups of fruit plants produce a product every year under normal growing conditions, but apple and pear plants do not produce harvest every year. One year they give a high yield, and the second year less. Therefore, these plants give normal harvest every two years. The reason for this situation is the lack of nutrients. Nutrients are spent on the formation of products in a high crop year. Ýf in the high harvest year the flower bud forming nutrient items would not enough then, flower bud could not forming. Therefore, the tree gives harvest every two years.

Professor Z.M. Hasanov notes that, every two years productivity on the apple and pear crops changes depending on the soil and climatic conditions and on the type of grafting. Sorts which was grafting on tall gives harvest every two years, same sorts reproduction by vegetative methods on

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the shorter or medium grafting gives harvest every year[1]. At the same time, it was also determined that flower buds appear at cell juice concentrations of more than 0.6-0.7 mol. If the concentration of cellular juice is less, then vegetative buds are formed. For this reason, shorter fruit-berry plants with lot of leafs are beginning to give harvest more quickly. Because, their photosynthetic potential of the tissue on every sm^2 are high. And this accelerates increased concentration of cell juice. The increased concentration of cell juice weakens the growth of vegetative buds, that accelerates nucleic acid on the konus growth and protein accumulation, it results in the formation of large amount of flower buds[1; 3].

Fruit trees until giving the full product, every year increas its crop yields. After they starting to give the complete product, every year during the period of their biological productivity it starts to give harvest. But some fruit plants as apple and pear one year gives harvest but other year does not. But which were on the low height grafting, they gives harvest every year[3].

According to reports by H.Akgul every two years productivity, seriously changes depending on the clone. At prevention, this the thinned out flowers and the elect pollination plays an important role[2]. From the numerous studies have been carried out in our country and abroad, was determined that not all flowers on the tree gives fruit and only few of them gives fruit. The ratio of productivity of fruit trees has an impact number of factors, as geographical conditions, pruning trees and giving them shape, maintenance of soil and cultivation system, irrigation,fertilization, diseases and pests and so on[1].

As shown in the analyzes, apple varieties, may change the productivity characteristics depending on the type of soil-climatic conditions and grafting. Therefore, in the researches was set as a goal to study the kombinations of grafting-sorts influence to this indicators.

RESULTS AND DISCUSSION

Our observation and analysis showed that the power of blossoming trees, also character to falling of flowers and other elements depending on the grafting significantly differ(Figure 1).

As seen from figure 1, grafting has a direct impact to loss of fruit elements in the varieties of pears. Thus, At varieties cultivated on vegetative grafting falls more flowers (sorts grafting on the

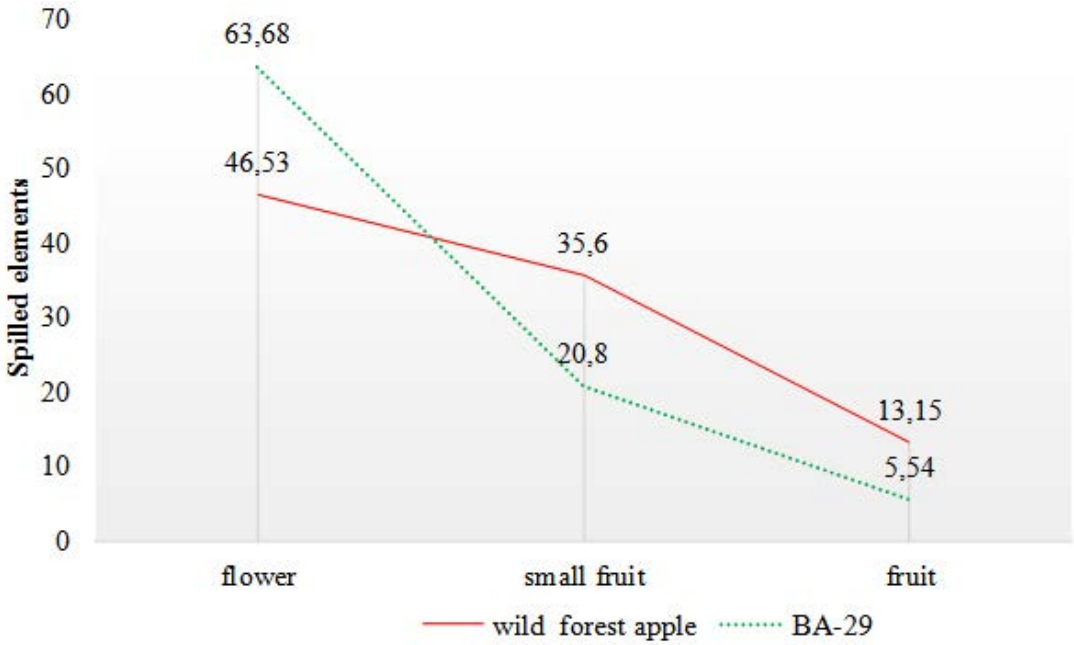

Fig. 1. Dynamics of outpouring fruit elements depending on the grafting

BA-29, avarage 63,68%). And if compared clone grafting with varieties cultivated on generative rootstock, seen that here fall of small fruit (35.6) and fruits (13.15%) more than others. Surely, the fact to loss a lot of flowers creates an opportunity to reduce consumption of food items for saves the plants in the next lossing flowers. And this allows preservation the food items for the flowers bud for

Table 1. Productivity and every year productivity index of combinations different grafting-varieties of the pear

Grafting	Sort	Years	Product collected from trees, kg	Amount of plants in the 1 ha, number	Productivity of sorts cents / ha	The index of every years productivity,%	Degree of productivity
1	2	3	4	5	6	7	8
Wild forest pear	Khure	2013	30,6	416	127,3	29,99	Comparative stable productivity in the every year
		2014	53,6	416	223,0		
		2015	26,5	416	110,2		
		2016	52,4	416	218,0		
	The beauty of Talgar	2013	22,7	416	94,43	47,22	Average degree productivity in the every tow years
		2014	67,2	416	279,6		
		2015	21,4	416	89,02		
		2016	55,8	416	232,13		
	White Williams	2013	40,5	416	168,5	20,39	Comparatively stabil productivity in the every year
		2014	56,8	416	236,3		
		2015	35,8	416	148,93		
		2016	58,6	416	243,78		
	beauty of forest	2013	33,6	416	139,78	21,13	Comparatively stabil productivity in the every year
		2014	49,6	416	206,34		
		2015	26,5	416	110,24		
		2016	42,7	416	177,63		
the average for the sorts and years					175,32	29,68	Comparatively stabil productivity in the every year
BA-29	Konfrans	2013	16,5	2000	330,0	9,76	High stable productivity
		2014	18,6	2000	372,0		
		2015	15,4	2000	308,0		
		2016	20,2	2000	404,0		
	White Vilyams	2013	23,1	2000	462,0	6,26	High stable productivity
		2014	24,2	2000	484,0		
		2015	21,8	2000	436,0		
		2016	26,7	2000	534,0		
	Red Vilyams	2013	20,6	2000	412,0	8,07	High stable productivity
		2014	21,4	2000	428,0		
		2015	18,7	2000	374,0		
		2016	24,8	2000	496,0		
	Forelle	2013	11,3	2000	226,0	11,73	High stable productivity
		2014	12,5	2000	250,0		
		2015	10,9	2000	218,0		
		2016	15,6	2000	312,0		
	Quyot	2013	10,9	2000	218,0	18,03	High stable productivity
		2014	14,9	2000	298,0		
		2015	11,6	2000	232,0		
		2016	17,5	2000	350,0		
the average for the sorts and years					357,2	10,77	High stable productivity

next year. In other words, the more untimely loss, so much reserve nutrients as a reserves and it can be considered as the main base to eliminate the every two years productivity.

It is known that, one of the main factors influencing the productivity of fruit crops is grafting. In this regard, we have studied the productivity of pear varieties and coefficients of every two years productivity depending on the grafting. It was determined that productivity of pear plant is different depending of sort and on the garafting. So that, the productivity of varieties cultivated on the wild forest pear average in a hectare was 175.32 quintal for the year, but varieties cultivated on the grafting BA-29 increased 181,88 quintal and contaned 357,2 quintal.

As shown in table 1, the same sort is having different productivity performance on the different grafting. In other words, varieties cultivated on vegetative grafting characterized by high productivity. So, White Williams pear varieties cultivated on the wild forest grafting gives 148,93- 243,78 cents / ha (for years) crop but but when it cultivated on the BA-29 grafting it gives 436,0-534,0 cent/ha crop.

Change the productivity coefficient for every two years depending on grafting gave interesting results during observations(table 1). As seen from the table, the sort cultivated on the wild forest pear, a little propensity to the every two years productivity and in this respect, they includes to every year relatively stable productivity and average degree of every two years productivity index. In generally, the productivity index every two years in varieties cultivated on the generative rootstock, for the years is average 29.68% but this indicators for varieties cultivated on the BA-29 grafting for years is 10,77%. From here, it becomes clear that pears varieties cultivated on the grafting clone every year gives highly stable harvest.

Summarizing research we can say that, fruit-binding percent is higher on the pears sort which was cultivated on the clone grafting, if directly affect the fruit-binding ability of pear grafting varieties, then the pear variests cultivated on the grafting trying get rid at the more fruit elements in the early stages of flowers. This significantly reduces the loss of nutrients create favorable conditions for the formation of the product in the future and reduces the risk to give harvest every two years. And this, is confirmed once again the superiority to cultivated pear varieties on the clone grafting.

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