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# Decreasing the Rate of Natural Decline in Apple Storage in Controlled Gas Environment Warehouses

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**Annotation:** This article describes the results of studies on the agrobiological characteristics of apple varieties suitable for storage. Here, the main indicators of the apple varieties selected for the experiments were analyzed. As a result of the research, scientifically based conclusions were made.

**Keywords:** Apple, degree of natural reduction, 1-MSP, drug, solution, productivity, quality, varieties, organoleptic indicators.

**Enter.** Apple fruit seasonal happened because of it from May to November continue Also, the year during population need satisfaction for his/her adjective to keep important to the point owner. Qualitative to keep for technological processes, including fruits various to keep to the conditions Adaptation is particularly cool and convenient in the environment preservation it is necessary in this field problems solution and to keep technologies improvement current from tasks one in our country apple of cultivation efficiency to increase service does.

During the experiments, the natural decline in apples stored in a common chamber was monitored by observing the different treatments of apple varieties stored in a controlled gas atmosphere (CGA) for 180 days.

Table 1 shows the different degrees of natural decline after storing apple fruits in a controlled gas atmosphere for 180 days under different treatments. This table is used to analyze the natural decline (e.g., drying, spoilage, or degradation) of fruits during storage and the effect of different doses of 1-MSP (1-methylcyclopropene).

**Star Crimson:** When stored in the usual way, the Star Crimson variety showed a decrease of 8.2%, but this indicator was significantly reduced by the effect of 1-Methylcyclopropene (1-MSP). With 90 g of 1-MSP, the decrease was 5.6%. with 100 g of 1-MSP the decrease was 1.9%. This is the most good result is considered In doses of 110 g and 120 g 1-MSP decreases reached 4.8% and 5.2%, respectively dose increase fruit shows, but decrease still both there is 1-MSP of the fruit

preservation efficiency great help in raising gives, this and far term to keep opportunities improves.

**Golden Delishes:** Golden Delishes in the news from being saved then the decrease is 7.3% reached However, the dose of 1-MSP decrease with increase further decreases. The reduction with 90 g of 1-MSP was 5.2%, and with 100 g of 1-MSP the decrease is reduced by 1.5%. At a dose of 110 g 1-MSP decrease by 4.1%, at a dose of 120 g of 1-MSP and The decrease is 4.9%. These results are in good agreement with Golden Delicious's 1st MSP. flexibility and in storage excellent fruit give shows.

**Renet Simirenko:** Renet Simirenko in the variety natural the decrease is 8.6%, 1-MSP dose decrease with increase decreases. With 90 g of 1-MSP, the decrease is 5.8%, while with 100 g of 1-MSP, the decrease is 2.2%. At doses of 110 g and 120 g of 1-MSP decreases increased by 4.5% and 5.4%, respectively and high doses fruit Renet Simirenko is in storage under the influence of 1 -MSP. success shows, but dose exactly selection and effective to keep conditions to account to take important.

**Scarlet (Steamored):** Scarlet variety natural The reduction was 8.3%, and the reductions were very low at lower doses of 1-MSP (90 g and 100 g). The reduction with 90 g of 1-MSP was 5.7%, and with 100 g of 1-MSP it was decrease is 2% reached In doses of 110 g and 120 g 1-MSP decreases reached 4.9% and 5.3%. Scarlet variety reductions lower, this of fruit shaking to the conditions related to be possible.

**Granny Smith:** In the Granny Smith variety natural The decrease is 7.1%, with a decrease of 1-SME quite a bit noticeable to the extent decreased. With 90 g of 1-MSP, the decrease is 5.1%, with 100 g of 1-MSP, the decrease is 1.6%. With doses of 110 g and 120 g of 1-MSP, the decrease is 4.2% and 5%. 1-MSP fruit metabolic activity reduces and preservation the deadline to extend help gives.

**Gala:** Gala in the news simple 8.1% decrease in method observed. However, with the effect of 1-MSP, the reduction is reduced to 5.8%. With 100 g of 1-MSP, the reduction is 2%, and with 110 g of 1-MSP, it is the decrease is reduced to 4.9%. At a dose of 120 g 1-MSP the decrease reached 5.1%. Gala variety decrease decrease, preservation by the effect of 1-MSP in the process reductions to reduce help gives.

In general when 1-MSP fruits preservation efficiency to increase help gives, but dose selection and every one your kind shaking to the environment flexibility to account to take important 1-MSP of fruits preservation the deadline to extend, organoleptic and physical qualities to keep help gives (see Table 1).

Pink Lady variety natural The decrease is 7.2 % The decrease is noticeable with the 1st dose of MSP. to the extent decreases. With 90 g of 1-MSP, the reduction is 5%, and with 100 g of 1-MSP, it is 1.5% is enough In doses of 110 g and 120 g 1-MSP The decrease reached 4% and 5.3%. These results are consistent with the 1st MSP of the Pink Lady variety. high to efficiency owner that it is shows.

Fuji variety natural the decrease is 7.4%, the amount of the 1st MSP The decrease decreases to 5.3% with an increase in 100 g of 1-MSP, the decrease is 1.9%, and at 110 g decrease of 4.4%, in the amount of 120 g and reached 5.1%. These results are of the Fuji variety both the decrease due to the impact of the 1st MSP decrease shows, but high in doses decrease both observed.

Moldovan woman in the news natural the decrease is 7.7%, and with the effect of 1-MSP, the decrease is 5.6%. With 100 g of 1-MSP, the decrease is 2.1%, and with 110 g of 1-MSP, the decrease is 4.5%. reaches 120 g in a dose of 1-MSP and the decrease reached 5%. These are the results Moldovan woman in the news also to the influence of 1-MSP adaptability existence, but high in doses of decrease further increase shows.

Jerome 8.6% natural in the variety decrease observed, and the amount of 1-MSP decrease with

increase decreases. The reduction with 90 g of 1-MSP is 5.8%, with 100 g of 1-MSP it is 2.3% 110 g of 1-MSP reduces the reduction by 4.5%, while 120 g and the decrease reached 5.4%. This is the result Jerome In storage with the 1st MSP of the variety both good fruits show, however some in doses of decrease significant shows.

**Table 1. Natural decline of apples after different treatments and storage in a controlled gas environment for 180 days (2022-2024)**

| Name of varieties | simple in the method (control) | 90 g 1-SME | 100 g 1-SME | 110 g 1-SME | 120 g 1-SME |
|---|---|---|---|---|---|
| Star Crimson | 8.2 | 5.6 | 1.9 | 4.8 | 5.2 |
| Golden Delicious | 7.3 | 5.2 | 1.5 | 4.1 | 4.9 |
| Renet Simirenko | 8.6 | 5.8 | 2.2 | 4.5 | 5.4 |
| Scarlet (Staymored) | 8.3 | 5.7 | 2 | 4.9 | 5.3 |
| Granny Smith | 7.1 | 5.1 | 1.6 | 4.2 | 5 |
| Gala | 8.1 | 5.8 | 2 | 4.9 | 5.1 |
| Pink Lady | 7.2 | 5 | 1.5 | 4 | 5.3 |
| Fuji | 7.4 | 5.3 | 1.9 | 4.4 | 5.1 |
| Moldovan woman | 7.7 | 5.6 | 2.1 | 4.5 | 5 |
| Jerome | 8.6 | 5.8 | 2.3 | 4.5 | 5.4 |

General analysis in doing from that conclusion to do It is possible that each of the 1st MSP one natural with dosage reductions decreases, but general decrease level apple in varieties difference does Star Crimson and Golden Delishes like varieties to the effect of 1-MSP good adaptation and reductions lower was Like Renet Simirenko and Fuji in varieties also the effect of 1-MSP was positive, however in them of decrease less level be observed Amount of 1st MSP It is known that the degree of natural decline affects the variety of varieties preservation efficiency increase for standard correct selection importance proved. 1-MSP dose optimal selection shaking efficiency improvement for important to the point owner

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