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HYGIENIC ASSESSMENT OF CRITERIA FOR SAFETY AND NUTRITIONAL VALUE OF FRUITS AND VEGETABLES

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Аннотация: *Почвенно-климатические условия, своевременность и качество агротехнических мероприятий и внесение минеральных удобрений несомненно являются ведущими факторами, определяющими урожайность сельскохозяйственных культур. Растущее использование удобрений научно регламентируется соответствующими расчетами, основанными на динамичности уровней питательных элементов почвы при интенсивном растениеводстве. Вместе с тем, по мере интенсификации сельского хозяйства происходят глубокие изменения во взаимоотношениях «растение-почва».*

Ключевые слова: *Почвенно-климатические условия, минеральных удобрений, овощебахчевых культурах.*

Аннотация: *Тупроқ-иқлим шароитлари, агротехник тадбирларнинг ўз вақтида бажарилиши ҳамда минерал ўғитлардан унумли фойдаланиш энг муҳим омиллар ҳисобланиб, қишлоқ хўжалик экинларининг ҳосилдорлигини белгилайди. Минерал ўғитлардан фойдаланишнинг йил сайин ўсиб бориши ва ўсимлик-шуносликнинг жадал суръатларда ўсиши тупроқни озиқлантирувчи элементлар даражасининг динамикаси шунга мувофиқ ҳисоб-китоблар билан илмий регламентланади. Шу билан бирга, қишлоқ хўжалигининг интенсификацияланиши давомида "ўсимлик-тупроқ" ўртасидаги ўзаро муносабатларда чуқур ўзгаришлар рўй беради.*

Калит сўзлар: *Тупроқ-иқлим, минерал ўғитлар, сабзавот-полиз.*

Relevance of the topic. Food contamination causes significant economic impacts and impacts human health around the world. According to WHO data, 2006, in developing countries, childhood diarrhea, anemia, is becoming the most important health problem associated with contaminated food.

Almost 25 years ago, in 1983, the Expert Panel on Food Safety concluded that diseases associated with food contamination were perhaps the most widespread health problem in the modern world and an important motivator for reduced economic productivity (WHO, 1984). . In 1992. The International Conference on Nutrition stated

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that hundreds of millions of people suffer from infectious diseases caused by contaminated food. This conference declared that access to adequately nutritious and safe food is a human right (WHO, 1996).

In industrialized countries, studies have shown an unexpectedly high annual prevalence of food-borne illnesses, e.g. 10-15% of the population. The most recent US data suggests that digital figures are as high as 30% (Mead et al., 1999). These rates are expected to be higher in developing countries and have larger health consequences. There is no doubt that food safety issues will continue to plague humanity in the 21st century, and some global changes continue to negatively impact food safety in the new century.

The purpose of the research is to develop effective ways to preserve the high nutritional, biological value, quality and safety of fruits and vegetables intended for transportation by rail.

Object and method of research: 1st zone - Tashkent district of Tashkent region - economically developed suburban agricultural zone;

Zone II - Mirzachul district of Syrdarya region - an agricultural zone with relatively environmentally friendly farming conditions;

III zone - Amudarya region of the Republic of Karakalpakstan, an agricultural zone with environmentally unfavorable farming conditions.

Research results. The following field options were selected in each observed zone:

A-option (control, without crop rotation with cotton for the last 3 years) when sowing directly in rows 6-7 kg/ha P2O5 and during the growing season P50O50;

B-option – crop rotation of agricultural crops after cotton, for a full sowing cycle 70-80 t/ha of organic fertilizer (manure);

Option C – combined fertilizer P2O5 6-7 kg/ha + P50O50 + 10 t/ha of manure using generally accepted technology.

And the option is a harvest from fields of crop rotation without cotton, for a full sowing cycle 70-80 t/ha of organic fertilizer (manure); In the option (crop rotation fields with cotton) when sowing directly in rows 6-7 kg/ha P2O5 and during the growing season P50O50;C-

option – combined fertilizer P2O5 6-7 kg/ha + P50O50 + 10 t/ha of manure using generally accepted technology.

It was not possible to establish any pattern of correlation between copper content and growing conditions characteristic of all types of vegetable and melon crops. For example, in radishes and melons, the copper content in zones I-II is higher than in zone

III. In tomatoes and cucumbers in zone III it is higher than in zones I-II. In carrots, eggplants, turnips, beets, and tomatoes, the copper content increases depending on the background level of nitrates in the soil and products.

For example, the amount of lead in beets is 0.46±0.06 mg/kg (R<0.001), in cabbage 0.48±0.02 mg/kg (R<0.001), in eggplants 0.48±0, 03 mg/kg. kg (R<0.001).), the amount of nitrates in watermelon is 57.0±3.5 mg/kg, in melon 87.0±4.0 mg/kg, which significantly exceeds the norm (R<0.05).

For other products, no significant differences in copper content were found depending on the field options.

Background indicators of the content of nitrates, salts of heavy metals and arsenic in fruits and vegetables by observed zones (mg/kg net, M±m)

By product	Nitrates Lead			Nitrates Lead			MPC (SanPN 0283-10)	
	A	B	C	A	B	C	Nitrates Svenets	Nitrates Svenets
Beet	820±12	846,0±13	924±16***	0,27±0,02	0,43±0,05**	0,46±0,06**	1400,0	0,5
Cabbage	220,0±10,0	260,0±12,0*	293±13,0***	0,42±0,02	0,47±0,02	0,48±0,02*	900,0	0,5
Radish	111,0±11,0	118,0±11,0	126±12,0	0,14±0,01	0,17±0,01*	0,18±0,02	400,0	0,5
Turnip	102,0±10,0	120,0±12,0	128±13,0	0,23±0,02	0,28±0,03	0,29±0,03	600,0	0,5
Eggplant	140,0±12,0	148,0±12,0	160±13,0	0,36±0,02	0,46±0,02**	0,48±0,03**	210,0	0,5
Potato	132,0±10,0	140,0±12,0	158±13,0	0,25±0,02	0,28±0,03	0,29±0,03	250,0	0,5
Cucumber	40,0±2,0	52,0±3,0**	284±14,0***	0,41±0,02	0,45±0,01	0,46±0,04	150	0,5
Tomato	92,0±5,0	135±10,0***	143±12,0***	0,37±0,02	0,42±0,01*	0,43±0,07	150	0,5
Carrot	210,0±12,0	230,0±14,0	276±16,0**	0,22±0,02	0,29±0,03	0,29±0,02*	400	0,5
Parsley	530,0±21,0	660±22,0***	720±23,0***	0,19±0,02	0,21±0,02	0,24±0,03	2000	0,5
Onion	56,0±3,0	64,0±3,5	65,0±2,0*	0,06±0,01	0,08±0,02	0,07±0,02	80	0,5
Watermelon	48,0±2,0	54,0±3,0	57,0±3,5*	0,18±0,02	0,21±0,02	0,23±0,03	60	0,5
Melon	72,0±3,0	79,0±3,0	87,0±4,0**	0,34±0,02	0,38±0,02	0,39±0,02	90	0,5

Note: * - The differences in relation to the data of option A are significant

In conclusion, we can say that as a result of studying the hygienic criteria of vegetable and fruit products grown in different conditions, it became clear that the

amount of nitrates and heavy metal salts varies depending on the monitoring regions, the soil in the sown areas, irrigation water and types of products.

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