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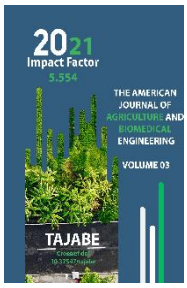

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Problems Of Classification And Certification Of Certain Insecticides According To The Customs Code Of The Republic Of Uzbekistan

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ABSTRACT

This article provides the following information: types of pesticides, their significance in agriculture, mechanisms of action, the use of insecticides in horticulture and vineyards, classification of insecticides, a list of widely used insecticides against insect pests on crops (apple, pear, plum, peach, grape), permitted by the State Chemical Commission of the Republic of Uzbekistan, as well as proposals for improving their classification according to the commodity nomenclature of foreign economic activity.

KEYWORDS

Pesticides, herbicides, fungicides, insecticides, bactericides, acaricide, defoliant, stimulator, regulator, fuel pump, position, sub-position, ingredient, fumigant, emulsion, suspension, dispersion, aerosol.

INTRODUCTION

Uzbekistan is a country in the eastern part of Central Asia. The climate is sharply continental, hot and arid, and agriculture in Uzbekistan is

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one of the branches of the Uzbek economy. Arable land accounts for 4.4 million hectares of land or about 10 per cent of the total area. This climate, including the temperature, is favourable for the cultivation of numerous crops in these regions. In Uzbekistan, cotton is maturing, grain crops are also yielding a good harvest, and many types of fruit trees and grapes are growing.

Although the main agricultural crop is cotton and grain, horticulture has become increasingly important in recent years. The Government of the Republic of Uzbekistan also pays great attention to this direction. Several documents were adopted, including the resolution of the Cabinet of Ministers No. 791 of 04.10.2018, No. 1012 of 18.12.2019, No. 950 of 25.11.2019 No. 52 of 30.01.2020 (on expanding the area of orchards and vineyards, also with intensive technology).

To obtain a good harvest, it is necessary to take measures to control pests, diseases and weeds of crops. For this purpose, numerous pesticides – chemical preparations are used [2].

Insect pests cause significant damage to most crops. Adults eat leaves and fruits. Also, at a minimum, they reduce the quality of agricultural products, as a maximum, plants die before they can bear fruit. Insecticides are most often used for the treatment of grain, fruit and vegetable crops.

Preparations in dry form (water-dispersed granules, wetting powder, granules, dust) are used for pre-sowing treatment, powdering and application to the soil. The most economically and environmentally successful are liquid: concentrate suspensions and oil dispersion, used for spraying and aerosol treatment of plants, seeds and soil. For fumigation, checkers are most often used, which form toxic gases during gorenje [3-7].

The mechanisms of action of insecticides on the insect body are different. For example, pyrethrins and pyrethroids disrupt the transmission of nerve impulses in both axons and synapses; they act on the nervous system. There are insecticides, the action of which is based on the inhibition of intracellular oxidative processes, regulating the physiological processes in insects. Insecticides, like other pesticides, are toxic to warm-blooded animals, including humans, and are dangerous to the environment if used improperly. Therefore, production, sale and use are allowed only with the permission of the competent authorities. The world production of insecticides in 1986 was estimated at 4.7 billion dollars, the production of active substances in the composition of insecticides in the United States amounted to 76.4 thousand tons/year (1984), in Germany - about 33 thousand tons/year (1986) [1-3].

Purpose and objectives: to study chemical classes, application and classification in the HS on the chemical composition of insecticides.

MATERIALS AND METHODS

The research material is insecticides used in horticulture in the Republic of Uzbekistan. To study the chemical composition, qualitative and quantitative analyses of selected insecticide objects are used.

We have identified the following information, insect pests are able to destroy a significant part of the fruit tree crop. About 70 per cent of the world's crop loss is due to the activity of the apple moth. It should be emphasized that today it is almost impossible to obtain clean products from agricultural crops without

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the use of pesticides. Insecticides are of the greatest importance for such crops like fruit and grapes since these plants are rich in the easily digestible food necessary for insects – carbohydrates [1-5].

Pesticides used in agriculture are more than 1.5 thousand different chemicals (herbicides, fungicides, insecticides, acaricides, defoliants, stimulants, regulators, etc.) allowed for agricultural use in the Republic of Uzbekistan included in the "List of pesticides and agrochemicals allowed for use in agriculture of the Republic of Uzbekistan" State Commission for Chemistry and Plant Protection under the Cabinet of Ministers (State Chemical Commission) [4-9].

Insecticides (from the Latin insectum - "insects" + caedo - " I kill») - chemical preparations intended for the destruction of harmful insects, both as adults, and at the stage of larvae, eggs and pupae. Depending on the ways in which insecticides penetrate the insect body, they are divided into the following groups: intestinal, contact, systemic and fumigants [1-4].

Information about insecticides used in horticulture in the territory of the Republic of Uzbekistan table-1.

Table 1. Insects used in horticulture

Name of the drug, registrant, date of re-registration	Consump-tion rate, kg/ha or l/ha	Culture	Purpose (pests)	Proces-sing method and time	The period of the last processing before the harvest, days	Maximum proces-sing speed
INABAMECTIN B1, 50 g/l CE FH "Maroqand mevasabzavot", Uzbekistan 31.12.2020	0,1–0,15	Apple tree	Ticks	Spraying during the growing season	30	2
KRAFT 3.6% V. R. em. "Keminova A/S", Denmark 31.12.2019	0,4–0,6	Appletre e	Ticks	Spraying during the growing season	30	2
VERTIMIKE DUO, K. E. " Nanjing Esens Fine-Chemical Company Ltd.", China 31.12.2019	0,2	Apple tree	Spider mite	Spraying during the growing season	30	2
PILARMECTIN 1,8% K. E. "Pilar Agri Saens (Canada)	0,2–0,25	The grapevin e	Ticks	Spraying during the growing	30	1

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Corp.", Canada, 31.12.2016				season		
ALPHAMILINE 17.6% to C. "Arista Life Science Benelux Sprl", Belgium, 31.12.2020	0,2–0,25	Apple tree	Apple fruit moth, leafhoppers	Spraying during the growing season	30	2
ALPHAMILINE 17.6% to C. "Arista Life Science Benelux Sprl", Belgium, 31.12.2020	0,2–0,25	The grapevine	Bunch Leaf wrapper	Spraying during the growing season	30	2
MITAK, 20% PhD "Arista Life Sciences SAS", France, 31.12.2017	3,0–6,0	Apple tree	Mites, aphids, fruit beetles, leafhoppers, moths	Spraying during the growing season	30	2
MITAK, 20% PhD "Arista Life Sciences SAS", France, 31.12.2017	1,6–2,4	The grapevine (queen cells)	Spider mite , leaf rollers	Spraying during the growing season	30	1
MITAK, 20% PhD "Arista Life Sciences SAS", France, 31.12.2017	3,0–4,5	Pear	Ticks	Spraying during the growing season	30	2
INACETAMIPRID 70% PP FH "Maroqand meva-sabzavot", Uzbekistan 31.12.2020	0,075–0,1	Peach	Aphids	Spraying during the growing season	30	2
KINMIX, 5% K. E. (R) "Agro-Kemi", Hungary, 31.12.2019	0,4	The grapevine	Bunch Leaf wrapper	Spraying during the growing season	30	2

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KINMIX, 5% K. E. (R) "Agro-Kemi", Hungary, 31.12.2019	0,3	apple plum tree	Aphids, fruit beetles, leafhoppers	Spraying during the growing season with 0.03% emulsion of the drug	30	1
ENTOSORAN 10% S. P. LLC " Ifoda agro kimehimoya», Uzbekistan, 31.12.2019	0,3	Appletree	Ticks	Spraying during the growing season with 0.03% emulsion of the drug	30	1
DELTACIS, 2.5% K. E. (R) LLC "Ifoda agrokimehimoya", Uzbekistan, 31.12.2019	0,5–1,0	Apple tree	Leafhopper, aphid, apple moth	Spraying during the growing season	40	2

From the above data, it can be seen that insecticides used in horticulture are imported as a commodity from ten different foreign countries (Canada, Belgium, France, Denmark, China, Hungary, and others), and are also produced by ten limited liability companies operating in our country (Ifoda Agrokimeimoya, Agrokim, Kroprotect, Inok nur Baraka, Samo Farm Service, and others). In addition, the table shows that the content of active substances in the composition of insecticides has different indicators. For example, the drug Inacetamiprid in its composition contains 70% of the active substance, Mitac-20%, Entosoran-10%, Kinmix-5%, Deltacis-2.5% [5-15].

In the commodity nomenclature of Foreign Economic Activity, adopted in 1983 in Brussels, according to the definition of their marketability and positions, insecticides are divided into sub-sub-positions, strictly according to their chemical composition.

It is becoming clear that over the next more than 40 years, new generations of insecticides have been synthesized and will be synthesized, and will also be exported and imported to the world agricultural markets as a commodity. However, their other characteristics or

trademarks, such as the amount and mechanism of the active substance, the environmental impact were not taken into account when classifying in the fuel injection pump (ТЭНВЕД). Despite the fact that insecticides containing dozens of new types of organic substances have been developed, they are encoded according to subheading 3808919000 (other products).

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In addition, there is a risk of many problems when the chemical composition of the ingredients in the insecticide (from 97.5 to 30%) is not studied, they remain unidentified as a secret of the company. This is confirmed by the fact that sometimes there are cases of poisoning of people who use insecticide-treated products (fruits, vegetables, including grapes).

It cannot be said that the classification and certification of agricultural products in Uzbekistan meets the requirements of the international standard. The necessary information may be insufficient due to the lack of verification methods in both the State Sanitary and Epidemiological Station and the State Department of Standardization. After all, even in these organizations, there are not enough modern fast methods and devices for quantitative and qualitative determination of drugs.

It would be advisable to study the simplest, fastest and cheapest methods of chemical analysis of the classification of ingredients, based on the study of the chemical composition of additional substances used in agricultural products in Uzbekistan.

One of the solutions to this problem may be the research work and results carried out by the Honored Inventor of Uzbekistan, Doctor of Chemical Sciences, Professor I. R. Askarov, the founder of the subject and the specialized scientific council in the speciality 02.00.09 - "Chemistry of goods".

Since hundreds of new types of insecticides are currently produced and the global chemical industry supplies agricultural markets, it is necessary to systematize them for effective use in agriculture, to identify new methods of classification by their chemical composition.

Table 2. Classification of insecticides by TN VED (version 2017)

Kod TNVED	Item name
3808 91	insecticides:
3808 91 100 0	based on pyrethroids
3808 91 200 0	based on chlorinated hydrocarbons
3808 91 300 0	based on carbamates
3808 91 400 0	based on organophosphate compounds
3808 91 900 0	other

Insecticides that are widely used in agriculture against insects are classified in group 38 having the 3808 heading and subheadings 380891 (insecticides), then only by four types of active substances: 3808911000 (based on pyrethroids), 3808912000 (based on chlorinated carbohydrates), 3808913000 (based on carbamates), 3808914000 (based on organophosphates) and the rest all types are classified by the code 3808919000 (other) [5-15].

According to the rules of the Convention (Belgium, 1983), the positions and subheadings of goods do not change, and it is clear that the types of goods belonging to one subheading have only a few places. For example, insecticides (sub-position-380891) are only

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from 3808911000 to 3808914000 (a total of 4 types of insecticides by chemical composition),

and the remaining insecticides that are not included in these suppositions are classified according to 3808 91 900 0.

In most cases, goods are classified by net weight, but not by chemical composition, for example, DDT (currently prohibited due to high toxicity) with a net weight of no more than 300 g (3808520000), and the rest, that is, other 3808590000 [5-15].

CONCLUSION

In view of the above, we recommend taking into account the following indicators when classifying insecticides: chemical composition (inorganic and organic groups, other classes of organic substances), the number of active substances, the quality and quantity of various additives, and others.

The correct classification of insecticides has the following advantages: it should be the basis for certification in standards, the export and import of insecticides by classifying them in the prescribed manner, the sale of goods at cost, bring them to the international market by optimizing them on the basis of cost, and especially on their basis to organize the proper collection of payments and finally creates the opportunity to economically protect the country, the environment, including plants, animals, and human health.

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