

*Mufail SALIHAIJ, Myzejen HASANI,
Sylë TAHIRSYLAJ, Diellon SALIHAIJ*¹

RESIDUE OF PESTICIDES IN FRUITS AND VEGETABLES IMPORTED FOR CONSUMPTION IN KOSOVO MARKET

SUMMARY

Residue of the pesticides in the fruits we consume on daily basis, in particular in those food items which are not produced in our country and therefore their production is unknown to us, has been and will remain the biggest challenge for our quality control institutions, responsible for protection of health of our consumers. Taking into account constant increase in use of chemical substances – pesticides, then failure to comply with instructions on use, carenza of each pesticide, overdose caused by producers aiming more successful protection – all of these factors are daily increasing the level of risk for our consumers. Having in mind the situation of agricultural production in the territory of Kosovo with its destroyed post-war economy and considering the fact that our local agricultural production hardly covers 30% of our total consume needs; it is natural that such deficit is being covered with imported goods from abroad.

Keywords: Deficit, Dose, Carenza, Consumption, Pesticide.

INTRODUCTION

Intensive production of fruit, apart from other agro technical measures necessitates also efficient protection, including interventions with chemical means – pesticides. Extensive use of pesticides like never before is a necessary evil which is imposed on us in order to obtain sufficient and qualitative yield demanded by the market. Chemical combatting has remained the most efficient method for protection of plants from different diseases and pests. Increase of the world population and reduction of the agriculture area compel the producer to use a specific and adequate program for every fruit culture in order to increase its planned yield. Also the Republic of Kosovo, whose agriculture was badly damaged during the war of 1998 – 1999 and upon privatization reform of its agriculture combines just after the war, is facing a great deficit of fruit and vegetables and there is no hope for any quick rehabilitation, hence import remains the only alternative. Import of these products, in addition to their high cost, makes proper monitoring impossible during the process of production of these agriculture products, since not always the apparently healthy fruit are suitable for consumption, as a result of the wrong application of the chemical

¹ Mufail Salihaj, University of Agriculture, Prishtina, Myzejen Hasani, University of Agriculture, Tirana, Sylë Tahirsylaj, University of Agriculture, Prishtina, Diellon Salihaj, University of Agriculture, Prishtina.

protection means – pesticides. Use of pesticides requires a professional monitoring during the entire production process from the beginning of vegetation until the fruit harvesting. Such monitoring is impossible to take place as long as one country is a mere producer while another one is a mere consumer, especially when such countries are not EU member states yet and consequently do not comply with the required standards for production of agriculture products and protection of its consumers. Taking into consideration all that has been said so far, casting doubt at quality of such imported products, I have struggled during my two years' work to provide some interesting information to our consumer.

The study was carried out during the 2009 – 2010 period and aimed our familiarization with eventual residue of the MRL pesticides in fruits and vegetables imported into our country.

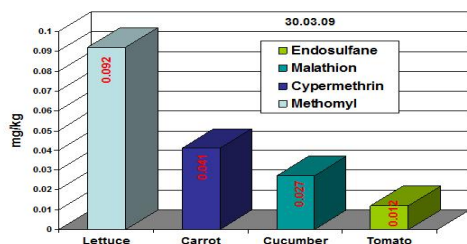
MATERIALS AND METHOD

Samples of these products were obtained at the border crossing points – custom duty terminals, chiefly at Hani Elezit border crossing point, once the loaded trucks had crossed the border. Sampling was mainly conducted during the most frequented periods of years – peaks. Such samples were taken at random, usually from 6 – 8 points randomly chosen from a truck (for a single article). Such samples were then sent to Skopje Institute the same day or the following day (since there was no similar institute available in Kosovo). Analysis were concentrated in those parameters which represent greater danger to human health and environment (according to the WHO and FAO), such as: carbaryl, carbofuran, cypermethrin, deltamethrin, dichlorvos, diazinone, endosulfane, fenvalerate, lindane, malathion, metoxychlor, parathion, permethrin, bromopropylate, methamidophos, fenitration, dimetoate bifenthrin, chloropyrophos, metomyl.

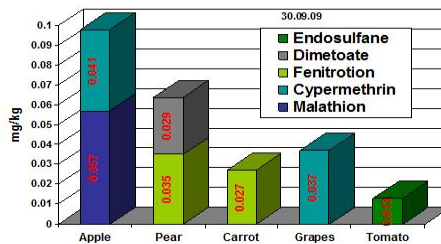
RESULTS AND DISCUSSION

From the sampling dated 30 March 2012, from analyzed parameters, the following substances were found beyond the permissible consumption norm: Endosulfane found in lettuce, in which the producer had used this insecticide during the last vegetation phase and did the harvesting for the market before expiry of carenza which is forbidden. There was a similar action with the insecticide Malathion in the culture of carrot, then with Cypermetrinen in the cucumber and Methiomyl in the tomato. There is a great demand of all these cultures in our local markets, in particular during early spring, while the obtained results indicate that these vegetables appear in our local markets prior to full disintegration of these pesticides in the aforementioned vegetables.

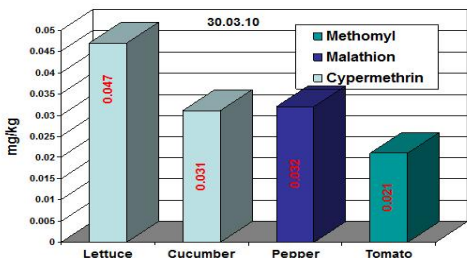
Similar results have been obtained also from the samples collected during the last decade of month of June, when fruits of apple, pear, carrot, grapes and tomato contained high levels of MRL with the following residues: Endosulfane, Dimetoate, Fenitration, Cypermetrin and Malathion. Samples collected during the second year of our experiment have also contained residues of Methiomil, Malathion and Cipermetrin in the following vegetable cultures: lettuce, cucumber and pepper.



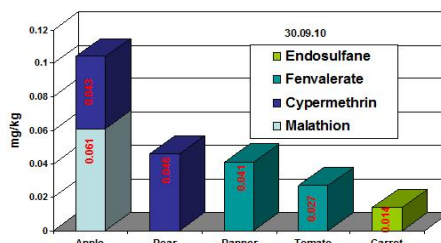
Graph 1. Residue on the sample of periods of the first half 2009



Graph 2. Residue on the sample of periods of the second half 2009



Graph 3. Residue on the sample of periods of the first half 2010



Graph 4. Residue on the sample of periods of the second half 2010

CONCLUSION

From the results obtained in the experiments over the course of two years, we can conclude that not all imported fruit products can meet the consumption criteria. As it can be seen from the tables and charts above, residues such as Cypermethrin, Malathion, Methomyl, Endosulfane, Fenitrothion etc. have exceeded the permitted limit of MRL, as foreseen by the European Union. From the results obtained during this study it is evident that producers have harvested these agriculture products before the carenza phase of these insecticides was over and they were imported and consumed in Kosovo in this condition. Therefore, based on these data, we recommend that such imported goods should be initially sent to the quarantine until the MRL laboratory report is obtained. We also recommend closer and better cooperation of the phytosanitary service of Kosovo with all states exporting their vegetable products in order for us to have a better review about the list of pesticides which are used for such products entering the state of Kosovo. Such prerequisites would bring forth a better safety of imported products that are consumed by our local markets.

REFERENCES

- Savezni zavod za zdravstvenu zastitu niro "PRIVREDNI PREGLED"(1989) Pesticide u hrani,pp.129-133 standardne metode za odredivanje ostataka pesticida u namirnicama i deo.
- Susuri L, (1998) Fungicidet Herbicide,pp 7-9 Universiteti Bujqesor Prishtine, Kosove.
- Kolaci A, (2003) Manuali i Fitoformacise,pp 146,155,171-172, 188, 190, 203, 226, 249. (Botim i qendres se Edukimit Bujqesor "Agrohlp").
- Salihaj M, (2010) "JIEAS" Environmental Application & Science (Volume 5-Issue1), pp 159-160.

*Mufail SALIHAI, Myzejen HASANI,
Sylë TAHIRSYLAJ, Diellon SALIHAI*

OSTACI PESTICIDA U VOĆU I POVRĆU IZ UVOZA NAMIJENOM TRŽIŠTU KOSOVA

SAŽETAK

Ostaci pesticida u voću koje unosimo dnevno, naročito u onim namirnicama koje se ne proizvode u našoj zemlji, a samim tim nam je i njihova proizvodnja nepoznata, bila je i ostaje najveći izazov za naše institucije za kontrolu kvaliteta, odgovorne za zaštitu zdravlja naših potrošača. Imajući u vidu konstantno povećanje upotrebe hemijskih sredstava - pesticida, zatim nepridržavanje uputstva o upotrebi, vrijeme primjene pesticida, predoziranje s ciljem da se ostvari uspješnija zaštita - svi ovi faktori svakodnevno utiču na povećanje nivoa rizika za naše potrošače. S obzirom na stanje poljoprivredne proizvodnje na teritoriji Kosova, sa uništenom poslijeratnom ekonomijom i s obzirom na činjenicu da naša lokalna poljoprivredna proizvodnja zadovoljava oko 30% naših ukupnih potreba, prirodno je da se takav deficit pokriva uvozom robe iz inostranstva.

Ključne riječi: deficit, doza, vrijeme primjene, potrošnja, pesticide.