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UKIM Institute of Agriculture Skopje
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Academic qualifications**2016. – Ph.D.**

UKIM Faculty of Agricultural Sciences and Food Skopje
Influence of foliar fertilizing on yield and quality of the table grape cv. Cardinal and Afus ali

2011. – M. Sc.

UKIM Faculty of Agriculture Skopje
Influence of foliar fertilizing on yield and quality of the corn in Skopje region

2005. – B.Sc.

UKIM Faculty of Agriculture Skopje
Quality properties of wheat – variety Radica

Training and research experience

2013. Training Program on “Intensive Horticulture” MASHAV – CINADCO - The Center for International Agricultural Development Cooperation, Israel.

2012. Solving new techniques and methods for fertilizer analysis. Soil and Agroecology Laboratory, Institute of Field and Vegetable Crops, Novi Sad, R. Serbia.

2012. 3th International Course on Sustainable Management of Soil and Water Resources. UTAEM, Izmir, Turkey.

2009. Regional Training Course on Cytogenetics and in-vitro Techniques in Mutagenesis of Crop Plants and radiation-mediated Reconstruction of Plant Genome.. International atomic energy agency (IAEA), Vienna, Austria. Sofia, Bulgaria.

2009. International Student Course on Integrated Water Resources Management (IWRM). DRIMON Project – Interdisciplinary assessment of water resources management in two transboundary lakes in South Eastern Europe, Durres, Albania.

Research interests

Soil fertility;
Plant nutrition;
Plant physiology;
Fertilizers and fertilizing;
Soil degradation;
Influence of climate changes on soil and plants.

Teaching

Program Organic and biodynamic plant production

- Soil fertility and fertilizing in organic production
- Climatic variability and vulnerability of organic production
- Sustainable management of soil resources

Program Enology

- Terroir and microclimatic conditions during wine production

Other professional activities

2023 - present. Member of Expert working group for Support the procedure of drafting and enacting the Law for plant nutrition. Ministry of Agriculture, Forestry and Water Economy, North Macedonia.

2023 - present. Member of Management Committee. Cost Action CA22144. COST.EU cooperation in science & technology.

2022 - present. Head at Department of soil science and plant nutrition. UKIM Institute of agriculture, Skopje.

2022. Member of working group (WG1) – Harmonization of protocols and methodologies for fertilizers analysis. International Network of Fertilizer analysis, Food and agricultural organization of the United nations (FAO).

2022. Member of working group (WG2) – Capacity building/Strengthening. International Network of Fertilizer analysis. Food and agricultural organization of the United nations (FAO).

2022. Member of working group (WG3) – Governance, policy and regulations. International Network of Fertilizer analysis. Food and agricultural organization of the United nations (FAO).

2022. National expert - Global Soil Nutrition Budget map (GSN map). Food and agricultural organization of the United nations (FAO).

2020 – present. Expert in the field of agriculture - Fund for Innovation & Technology Development of R. North Macedonia.

2018 – 2022. Head of Laboratory for soil testing, fertilizers and plants. UKIM Institute of agriculture, Skopje.

2018 – present. Member of Global Soil Laboratory Network - GLOSOLAN (FAO).

2017. Member of working group - Soil degradation neutrality in R. Macedonia. Ministry of environment and physical planning, Skopje, R. Macedonia

2015-2017. Member of Expert Council of Low for quality and safety of fertilizers, biostimulators and soil conditioners. Ministry of Agriculture, Forestry and Water Economy, R. Macedonia.

Scientific and applicative projects

2023-2027. CA22144 - Sustainable use of salt-affected lands (SUSTAIN). COST.EU cooperation in science & technology, project team member.

2023-2024. Support the procedure of drafting and enacting the Law on soil protection. Institute for Good Governance and Policy in Environment and Climate Change (IPECC), Ministry of Environment and Physical Planning, North Macedonia and UNEP, national expert.

2023-2024. Research of the socio-economic position of young people in rural areas in North Macedonia. UKIM Institute for Agriculture, Skopje, R. Macedonia, project team member.

2022-2023. Filed and laboratory researches on new foreign rise species (*Oriza sativa* L.) in Kocani valley. UKIM Institute for Agriculture, Skopje, R. Macedonia, member of project team.

2021-2023. Correlation between macro and micro elements in soil-plant system. Ministry of education and science, Republic of North Macedonia and UKIM Institute for Agriculture, Skopje, project team member.

2021-2023. SKAT Consulting project on Integrated Water Resources Management (IWRM-K). Swiss agency for development and cooperation-K, EPI Centar and IADK, participant.

2021. Forum for climate change adaptation and start-up opportunities – EIT Food Star Up Awareness Event. UKIM Institute for Agriculture, Skopje, R. Macedonia and EIT Food, Funded by the EU, participant.

2021-2022. Copper monitoring in vineyard soils of the Tikvesh region, North Macedonia. UKIM Institute for Agriculture, Skopje, R. Macedonia, project coordinator.

2021-2022. Creating enabling environments for enhanced climate resilience in agriculture. UKIM Institute for Agriculture, Skopje, R. Macedonia and FAO, key expert.

2020 – 2021. The anti oxidant activity of fruits of some indigenous varieties of fruits species, vegetables and grapes. UKIM Institute for Agriculture, Skopje, R. Macedonia, project team member.

2019-2020. Achieving biodiversity Conservation through Creation and Effective Management of Protected Areas and Mainstreaming Biodiversity into Land use Planning (Database development of soil sealing rate and loss of soil organic matter on

3 pilot sites in Macedonia and analysis of their impact to biodiversity). GEF Global Environment through UN Environment Programme - UNEP, key expert.

2019-2021. Macedonia's Fourth National Communication and Third biennial Update Report on Climate Change under the UNFCCC (4thNC/3rd BUR). UNDP and UKIM Institute of agriculture, Skopje, project team member.

2019-2020. Germination researching at samples of different types of agricultural crops from gen bank after determining long term conversation. UKIM Institute for Agriculture, Skopje, R. of Macedonia, project team member.

2017-2018. Soil protection from degradation with development and use of on-line services, for easier application of some agro-ecological measures. Global Environment Facility (GEF), key expert.

2016-2018. Coordinating and integrating state of the art Earth Observation Activates in the regions of North Africa, Middle East and Balkans and Developing Links with GEO related initiatives towards GEOSS (GEO-CRADLE), Horizont 2020. UKIM Faculty of Agriculture Science and Food, Skopje, R. of Macedonia, participant.

2016-2017. Characterization of autochthonous varieties of pomegranate in Republic of Macedonia. UKIM Institute for Agriculture, Skopje, R. Macedonia, project team member.

2015-2016. GEF SGP COUNTRY PROGRAMME STRATEGY FOR OP6 Project-MKD/SGP/OP6/Y1/CORE/CD-CPS/15/01. Global Environment Facility (GEF) and UKIM Institute for Agriculture, Skopje, project team member.

2015-2016. Biological control of pests on vegetables in greenhouses. UKIM Institute for Agriculture, Skopje, R. Macedonia, project team member.

2014-2015. Introduction of new rice varieties in rice production in Macedonia. UKIM Institute for Agriculture, Skopje, R. Macedonia, project team member.

2014. MASIS - Macedonian Soil Information System. Minister of Agriculture Forestry and Water Economy, R. Macedonia and FAO (Food and Agriculture Organization), participant.

2013-2014. Impact of climate change on agricultural production in R. of Macedonia and Adaptation measures. UKIM Institute for Agriculture, Skopje, R. Macedonia, project team member.

2012-2016. Adaptation measures in Agriculture to Climate Changes. Rural Development Network and USAID, key expert.

2011-2012. Effects of terrier on the technological characteristics on the Cv. Vranec. UKIM Institute for Agriculture, Skopje, R. of Macedonia, project team member.

2006-2009. Interdisciplinary assessment of water resources management in two transboundary lakes in South Eastern Europe (DRIMON). UKIM Institute for Agriculture, Skopje, R. Macedonia, participant.

2004-2006. Germplasm characterization of wheat mutant population concerning wheat quality by using molecular markers.

UKIM Faculty of Agriculture, Skopje, R. Macedonia, participant.

Scientific publications

- [1] Andreevski, M., Mukaetov, D., Hristovski, S., Poposka, H., Content of heavy metals in soils formed on limestone and dolomites on Jablanica mountain, *1st International congress on soil science, XIII National congress in soil science: "Soil-water-plant" (Proceedings)*, Belgrade, Serbia, 383-390 (2013).
- [2] Andreevski, M., Mukaetov, D., Hristovski, S., Poposka, H., Content of heavy metals in rigosols from the area of Veles, *Journal of Agricultural, Food and Environmental Sciences, special issue: 3rd International symposium for agriculture and food (Proceedings) 18-20.X.2017, Ohrid, Republic of Macedonia*, **72**, 93-99 (2018).
- [3] Andreevski, M., Mukaetov, D., Poposka, H., Hristovski, S., Karadelev, M., Manevska-Kolevski, M., Heavy metals contents in soil and fungi in Skopje urban area, *5th Congress of the ecologists of Macedonia, with international participation; Special issue of the Macedonian ecological society (Proceedings)*, Ohrid, Macedonia, 135-140 (2017).
- [4] Andreevski, M., Mukaetov, D., Cvetković, J., Trendafilov, A., Cukaliev, O., Poposka, H., Sekuloska, T., Remediation of flotation material of copper mine "Bučim" Radoviš, *Thematic scientific conference: Soil protection activities and soil quality monitoring in South Eastern Europe*, Sarajevo, Bosnia and Herzegovina, 50-59 (2011).
- [5] Drvosanova, B., Ibushoska, A., Oreshkovikj, O. B., Poposka, H., Increasing climate resilience in pepper seed production through *Trichoderma harzianum* and soil fertilizer treatments in North Macedonia, *XII International symposium of agricultural sciences "Agrores 2023" (Book of abstracts)*, Trebinje, Bosnia and Herzegovina, 161 (2023).
- [6] Gjorgievska, T. V., Dedinec, A., Dedinec, A., Mihajlovska, E., Mukaetov, D., Poposka, H., Kaplan, G., Nedelkovski, D., Andonov, S., Cukaliev, O., Tanaskovic, V., Nestorovski, L., Nikolov, N., Mincev, I., *Climate Change Mitigation Report; 4th National communication on climate change*, UNDP and GEF, p. 156 (2022).
- [7] Kanevce, G., Gjorgievska, T. V., Bozikaliev, V., Dedinec, A., Dedinec, A., Mihajlovska, E., Aleskovski, L., Mukaetov, D., Poposka, H., Nedelkovski, D., Andonov, S., Cukaliev, O., Tanaskovic, V., Nestorovski, L., Nikolov, N., Mincev, I., Gavrilova, E., Mihajlov, M., Apostolova, O., *National inventory report Republic of North Macedonia. Fourth national communication on climate change*, UNDP and GEF, p. 222 (2021).
- [8] Kanevce, G., Gjorgievska, T. V., Dedinec, A., Dedinec, A., Mihajlovska, E., Mukaetov, D., Poposka, H., *Fourth National Communication on Climate Change*, UNDP and GEF, Skopje, p. 281 (2023).
- [9] Mukaetov, D., Andreevski, M., Poposka, H., Cation exchange capacity of hydromorphic black soils in Pelagonija, *1st International congress on soil science, XIII National congress in soil science: "Soil-water-plant" (Proceedings)*, Belgrade, Serbia, 580-588 (2013).

- [10] Mukaetov, D., Andreevski, M., Sekuloska, T., Poposka, H., Mincev, I., Modeling of soil run-off in Golema River catchment, *BALWOIS 2012*, Ohrid, Republic of Macedonia, 1-7 (2012).
- [11] Mukaetov, D., Blinkov, I., Poposka, H., Dynamic of land degradation neutrality baseline indicators in the R. of Macedonia, *Contributions; Section of natural, mathematical and biotechnical sciences, MASA*, **40**, 39-51 (2019).
- [12] Mukaetov, D., Poposka, H., Andreevski, M., Intensity of soil erosion on agricultural land under different of cropping systems and cultivation practices, *Albanian Journal of Agriculture Sciences, special edition ICOALS (Proceedings)*, 298-305 (2018).
- [13] Mukaetov, D., Poposka, H., Andreevski, M., Spatial assessment of soil organic carbon contents under different land use types in Ohrid valley, *XII International symposium of agricultural sciences "Agrores 2023" (Book of abstracts)*, Trebinje, Bosnia and Herzegovina, 70 (2023).
- [14] Mukaetov, D., Poposka, H., Andreevski, M., Mincev, I., Trendafilov, B., *Database development of soil sealing rate and loss of soil organic matter on 3 pilot sites in Macedonia and analysis of their impact to biodiversity*, Balkan foundation for sustainable development - BFS, Skopje, p. 16 (2020).
- [15] Mukaetov, D., Poposka, H., Nedelkovski, D., Dimitrov, L., Andonov, S., Cukaliev, O., Dimov, Z., Stojcevska, M. A., Tanaskovic, V., Nikolov, N., Nestorovski, L., Minchev, I., *Climate change vulnerability and adaptation agriculture, forestry and land use; 4th National communication on climate change*, UNDP and GEF, p. 222 (2021).
- [16] Mukaetov, D., Stevkova, S., Monevska, A. S., Atanasovska, A., Poposka, H., Use of ISAREG model as approach for optimization of irrigation scheduling of maize, *BALWOIS 2012*, Ohrid, Republic of Macedonia, 1-7 (2012).
- [17] Nedelkovski, D., Cvetković, J., Beleski, K., Poposka, H., Phenolic composition of Vranec grapevine cultivar (*Vitis vinifera* L.) grafted on different rootstock, *Bulgarian journal of agricultural science*, **23**, 389-395 (2017).
- [18] Nedelkovski, D., Royshev, V., Beleski, K., Poposka, H., Dimitrov, D., Influence of altitude on the ampelometric characteristics of Vranec variety leaves, *XII International symposium of agricultural sciences "Agrores 2023" (Book of abstracts)*, Trebinje, Bosnia and Herzegovina, 156 (2023).
- [19] Petkovski, D., Poposka, H., Genesis and properties of the district rankers (umbrisols) in northeastern Macedonia, *Zemljiste i biljka*, **61**, 57-67 (2012).
- [20] Poposka, H., Manasievska, S. S., Stojanova, M., Mukaetov, D., Influence of foliar fertilizing on stomata parameters in maize leaf (*Zea mays* L.), *International journal of agronomy and agricultural research*, **7**, 68-74 (2015).
- [21] Poposka, H., Mukaetov, D., Influence of cultivation and cropping systems on production of soil sediment on agricultural land, *Geophysical research abstracts. EGU General Assembly; EGU2017*, **19**, 1266 (2017).

- [22] Poposka, H., Mukaetov, D., Cvetković, J., Andreevski, M., Tasevska, T. M., Bandjo, O. K., Nedelkovski, D., Gjoljevska, M. R., Copper monitoring in vineyard soils of the Tikvesh region, North Macedonia, *Agro-knowledge Journal*, **23**, 183-197 (2022).
- [23] Poposka, H., Mukaetov, D., Dimov, Z., The effect of Mg foliar application on content of Mg, K and Ca ions in vine leaf and shoot on calcareous soil, *12th International scientific/professional conference "Agriculture in nature and environment protection"*, Osijek, Croatia, 193-199 (2019).
- [24] Poposka, H., Mukaetov, D., Nedelkovski, D., Yield and mineral composition of grapevine as affected by magnesium and iron foliar nutrition, *Journal of agriculture and plant sciences, JAPS*, **17**, 141-149 (2019).
- [25] Poposka, H., Mukaetov, D., Nedelkovski, D., Taseska Gjorgijevski, M., Effect of foliar calcium and nitrogen treatments on yield and fruit quality of table grapes cv. 'Cardinal', *Agro-knowledge Journal*, **24**, 91-104 (2023).
- [26] Poposka, H., Mukaetov, D., Stojanova, M., Andreevski, M., Macro and micronutrient content in grapevine leaves and shoots under the influence of foliar fertilization, *IV International symposium for agriculture and food - ISAF 2022 (Book of abstracts)*, Skopje, 164 (2022).
- [27] Poposka, H., Mukaetov, D., Stojanova, M., Nedelkovski, D., Using foliar applications to improve yields and some qualitative parameters of vine grapes (*Vitis vinifera* L.), *IV International symposium for agriculture and food - ISAF 2022 (Book of abstracts)*, Skopje, 163 (2022).
- [28] Poposka, H., Mukaetov, D., Stojanova, M., Prculovski, Z., Productive characteristics on Afus ali table grape variety, under foliar fertilization, *Tekirdag, Turkey*, 948-954 (2017).
- [29] Poposka, H., Stojanova, M., Mukaetov, D., Andreevski, M., Manevska-Kolevski, M., Effect of foliar fertilization on corn grain quality, *2nd International symposium for agriculture and food - ISAF 2015 (Proceedings)*, Ohrid, Republic of Macedonia, 929-936 (2015).
- [30] Poposka, H., Stojanova, M., Mukaetov, D., Andreevski, M., Petkovski, D., Influence of foliar fertilisation on distribution of some elements in maize leafs, *Soil and Plant*, **62**, 99-110 (2013).
- [31] Prculovski, Z., Božinović, Z., Boškov, K., Korunoska, B., Poposka, H., Kryeziu, S., Impact of the number of clusters on Cardinal variety production results (Proceedings), *3rd International Symposium for Agriculture and Food*, Ohrid, 165-168 (2017).
- [32] Stojanova, T. M., Poposka, H., Stojanova, M., The effect of foliar fertilizing on yield and the chemical composition of kernels of texas almond cultivar grown in Valandovo, *International Journal of Current Research*, **8**, 29118-29122 (2016).
- [33] Taseska, G. M., Nedekovski, D., Dzoljevska, M. R., Poposka, H., Determination of some parameters in wine produced from clone and population of Vranec variety vines, *Journal of agricultural, food and environmental sciences*, **76**, 46-51 (2022).
- [34] Андреевски, М., Андреевска, Д., Мукаетов, Д., Попоска, Х., Маркоски, М., Содржина на тешки метали во почви од

Кочанско Поле, *Годишен зборник на Земјоделскиот институт - Скопје*, **XXVIII/XXIX**, 63-75 (2012).

[35] Андреевски, М., Мукаетов, Д., Попоска, Х., Содржина на тешки метали во почви од Неготинско, *4th Congress of ecologists of Macedonia with international participation (Proceedings)*, Ohrid, Macedonia, 103-109 (2012).

[36] Андреевски, М., Мукаетов, Д., Попоска, Х., Контаминација на почвата и земјоделските култури со тешки метали во Велес и неговата околина и можни решенија, *Конференција „Загадување на градовите во Република Македонија: Кои се решенијата?“ (Зборник на трудови)* Скопје, 203-221 (2019).

[37] Андреевски, М., Мукаетов, Д., Христовски, С., Попоска, Х., Содржина на тешки метали во хидроморфни почви од Ресенско Поле, *Заштита на растенијата*, **XXIV**, 137-144 (2013).

[38] Андреевски, М., Мукаетов, Д., Цветковиќ, Ј., Попоска, Х., Секулоска, Т., Содржина на вкупни форми тешки метали во некои почвени типови од Ресенско, *Заштита на растенијата*, **XXI**, 67-72 (2010).

[39] Андреевски, М., Христовски, С., Попоска, Х., Мукаетов, М., Содржина на вкупни форми тешки метали во почви образувани врз лапорци, *Екологија и заштита на животната средина*, **13**, 13-21 (2010).

[40] Андреевски, М., Цветковиќ, Ј., Мукаетов, Д., Попоска, Х., Содржина на некои тешки метали во ригосоли од Кочанско, *Заштита на растенијата*, **XXII**, 81-86 (2011).

[41] Андреевски, М., Цветковиќ, Ј., Мукаетов, Д., Попоска, Х., Содржина на некои тешки метали во колувијални почви од Кочанско Поле, *Заштита на растенијата*, **XXIII**, 129-135 (2012).

[42] Андреевски, М., Цветковиќ, Ј., Попоска, Х., Мукаетов, Д., Петковски, Д., Василевски, К., Содржина на тешки метали (Fe, Cr и Ni) во ригосолите распространети во околината на металуршкиот комбинат Фени, *III Конгрес на еколозите на Македонија со меѓународно учество (Книга на апстракти)*, Струга, 375-380 (2008).

[43] Андреевски, М., Цветковиќ, Ј., Мукаетов, Д., Попоска, Х., Секулоска, Т., Петковски, Д., Содржина на некои тешки метали во смолниците од Неготинско, *Заштита на растенијата*, **XX**, 133-136 (2009).

[44] Каневче, Г., Ѓоргиевска, Т. В., Дединец, А., Божикалиев, В., Михајловска, Е., Алексовски, Л., Мукаетов, Д., Попоска, Х., Неделковски, Д., Андонов, С., Чукалиев, О., Танасковиќ, В., Николов, Н., Несторовски, Љ., Минчев, И., Гаврилова, Е., Михајлов, М., Апостолова, О., *Извештај за националниот инвентар на стакленички гасови на Р.С. Македонија; Четврт национален план и Трет двогодишен извештај за климатски промени кон УНФЦЦЦ, Програма за развој на Обединетите нации (УНДП) и Глобален фонд за животна средина (ГЕФ)*, р. 158 (2020).

[45] Кипријановски, М., Чукалиев, О., Лазаревска, С., Мукаетов, Д., Танасковиќ, В., Попоска, Х., Прирачник за агроеколошки мерки за производство на јаболка, in: *Проект за управување со сливот на река Струмица*, Швајцарска агенција за развој и соработка; УНДП; Министерството за животна средина и просторно планирање; Општини од

регионот; Центар за развој на Југоисточен плански регион; Епи Центар, 107-148 (2017).

[46] Кипријановски, М., Чукалиев, О., Лазаревска, С., Мукаетов, Д., Танасковиќ, В., Попоска, Х., Прирачник за агроеколошки мерки за овоштарство, in: *Проект за управување со сливот на река Струмица*, Швајцарска агенција за развој и соработка; УНДП; Министерството за животна средина и просторно планирање; Општини од регионот; Центар за развој на Југоисточен плански регион; Епи Центар, 113-153 (2017).

[47] Menkinoska, M., Gjorgoski, I., Manasievska Simic, S., Pavlova, V., Popeska, Z., Stanoev, V., Blazevska, T., Poposka, H., Gjorgovska, N., Levkov, V., The influence of Fe-chelates fertilizers on the soft wheat's quality, *International Journal of Emerging Technology and Advanced Engineering*, **4**, 80-88 (2014).

[48] Петковски, Д., Попоска, Х., Генеза и својства на смолниците (вертисолите) од славишко поле - Криво Паланечко, *Јубилеен годишен зборник за Земјоделски институт - Скопје*, **XXVI/XXVII**, 197-207 (2008/2009).

[49] Попоска, Х., Николовски, М., Станоев, В., Петковски, Д., Андреевски, М., Влијание на фолијарното ѓубрење врз приносот и хемискиот состав на зрното пченка, хибрид ZP 677, *Годишен зборник на Земјоделскиот институт - Скопје*, **XXVIII/XXIX**, 91-106 (2012).

[50] Чукалиев, О., Танасковиќ, В., Мукаетов, Д., Лазаревска, С., Попоска, Х., Прирачник за агроеколошки мерки за производство на домати и пиперка, in: *Проект за управување со сливот на река Струмица*, Швајцарска агенција за развој и соработка; УНДП; Министерството за животна средина и просторно планирање; Општини од регионот; Центар за развој на Југоисточен плански регион; Епи Центар, 53-91 (2017).