What type of fertilizer favors the soil quality of Međimurje County for pumpkin production

COOPERATION: Secondary School Čakovec and Medical School Varaždin

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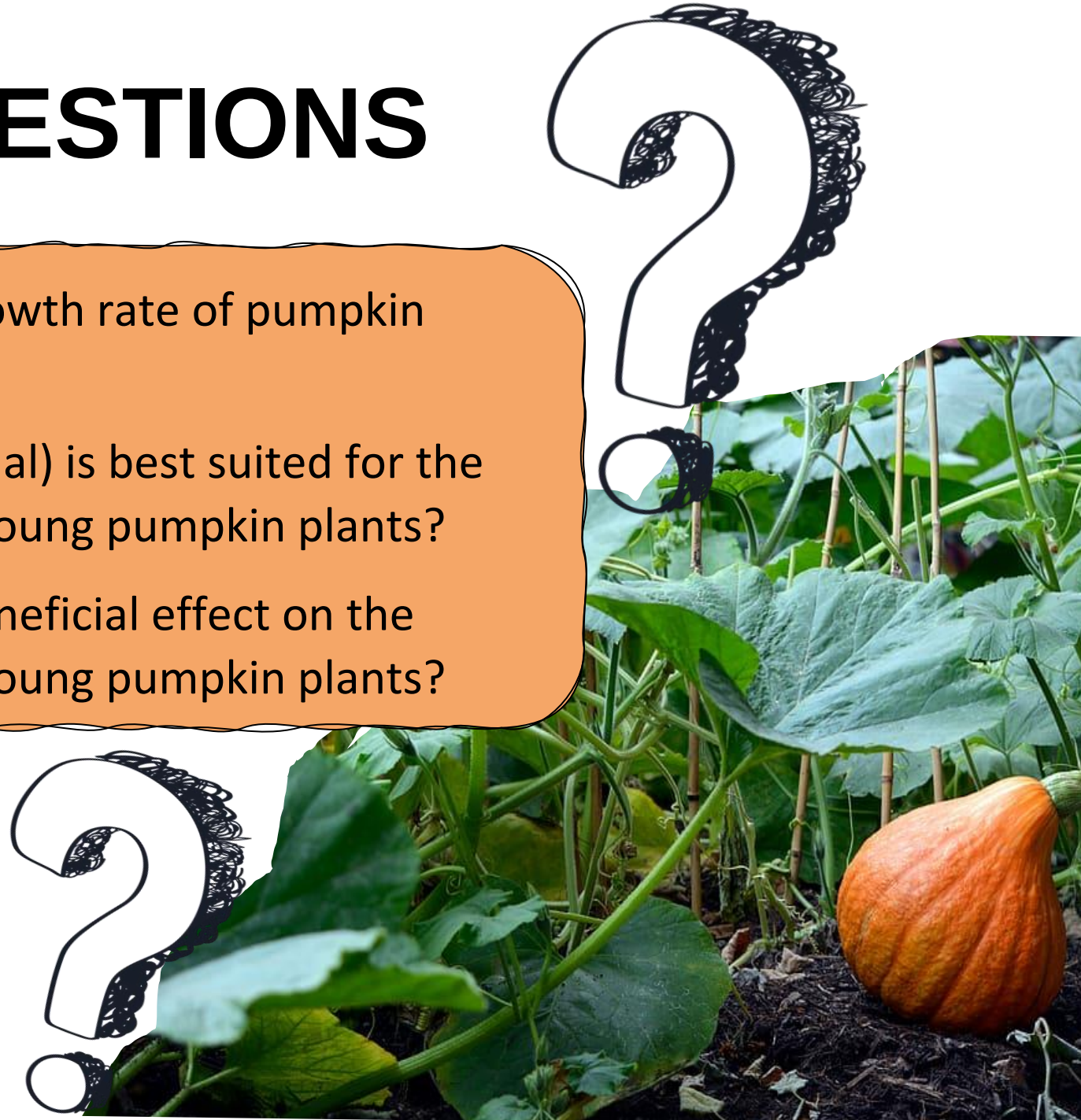
INTRODUCTION

- soil is an irreplaceable abiotic factor of an important economic branch, agriculture
- Međimurje and Varaždin counties are known for the cultivation of Cucurbita pepo L., from whose seeds pumpkin seed oil is obtained
- The importance of our research is to improve the production of pumpkin seed oil

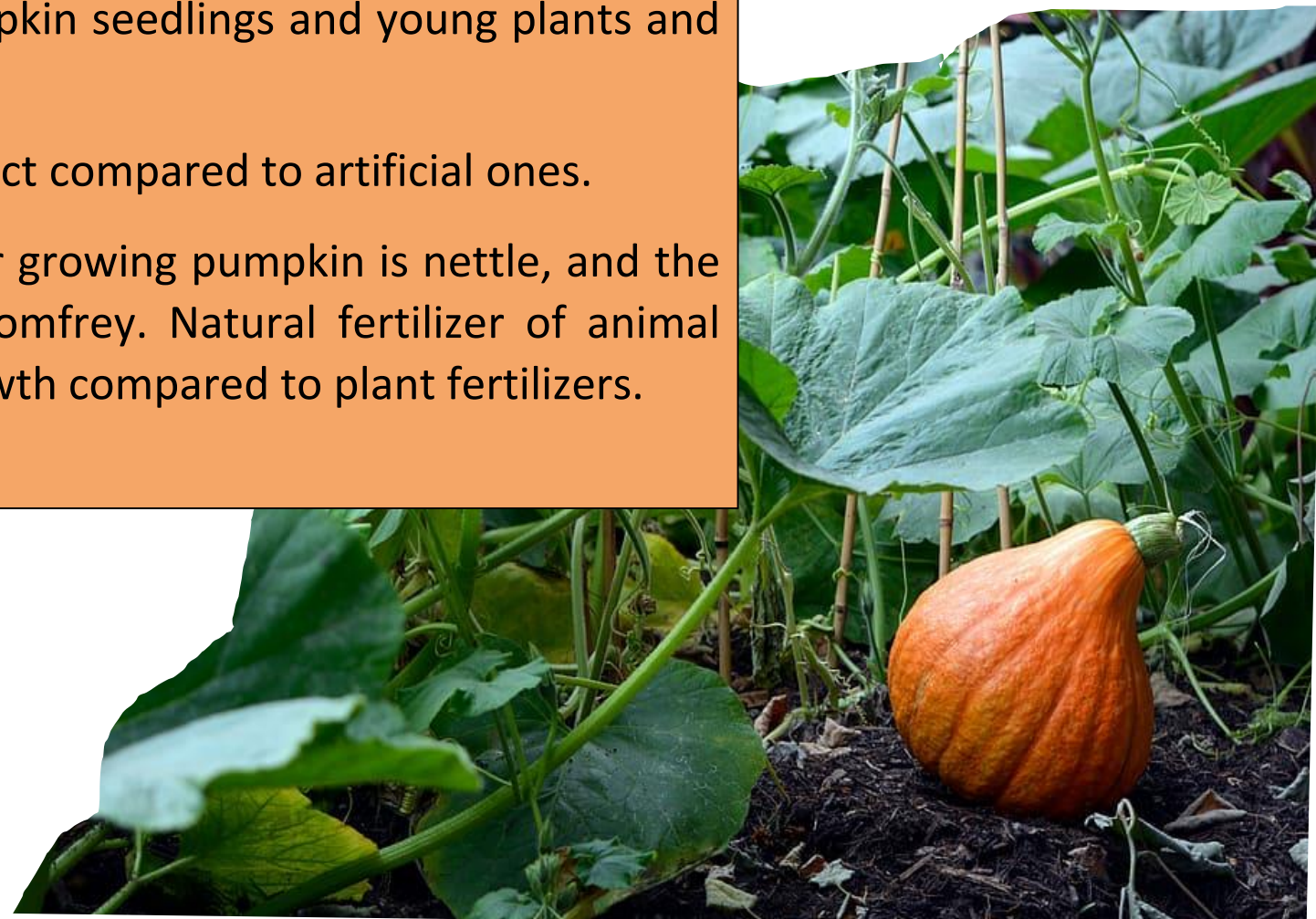
1. RESEARCH QUESTIONS

1. What is the effect of fertilizer on the growth rate of pumpkin seedlings and young pumpkin plants?
2. What type of fertilizer (natural or artificial) is best suited for the growth rate of pumpkin seedlings and young pumpkin plants?
3. Which natural fertilizer has the most beneficial effect on the growth rate of pumpkin seedlings and young pumpkin plants?



2. HYPOTHESES

1. Various fertilizers affect the growth of pumpkin seedlings and young plants and accelerate its development.
2. Natural fertilizers have a more effective effect compared to artificial ones.
3. The most suitable natural plant fertilizer for growing pumpkin is nettle, and the weakest influence on its cultivation has comfrey. Natural fertilizer of animal origin has a stronger effect on pumpkin growth compared to plant fertilizers.



3. RESEARCH METHODS

- Soil and Seed Sample Collection
- Sowing the seeds of Cucurbita pepo L.
- Collecting data on germination and growth
- Analysis of the collected data
- Soil analysis

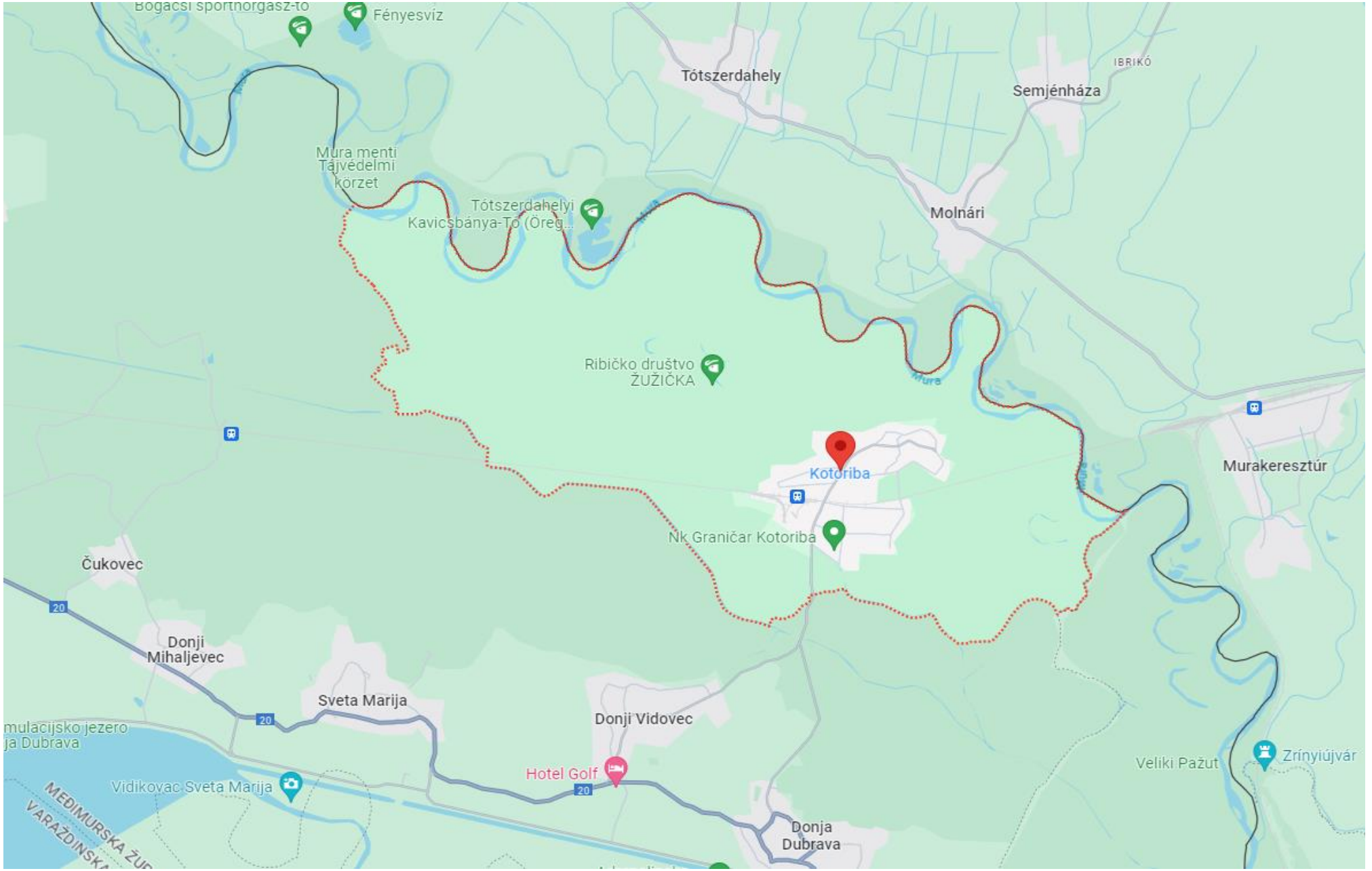


Figure 1. Location of soil sampling from Kotoriba

Figure 2-10 Cooperation between the Medical School Varaždin and the Secondary School Čakovec on soil analysis and sowing pumpkin seeds

4. PRESENTATION AND ANALYSIS OF DATA

Figure 11. Monitoring the germination and growth of pumpkin seeds

Table 1. Soil characterization

Lokacija	Vlažnost	Struktura	Konzistencija	Tekstura	Količina korijena	Količina kamenja	Karbonati	pH
Kotoriba	suho	grudasta	prhko	ilovasti-pijesak	ništa	ništa	nema reakcije	7

Table 2. Soil fertility before conducting an experiment

Lokacija	**Dušik**	**Fosfor**	**Kalij**
Kotoriba	tragovi	puno	puno

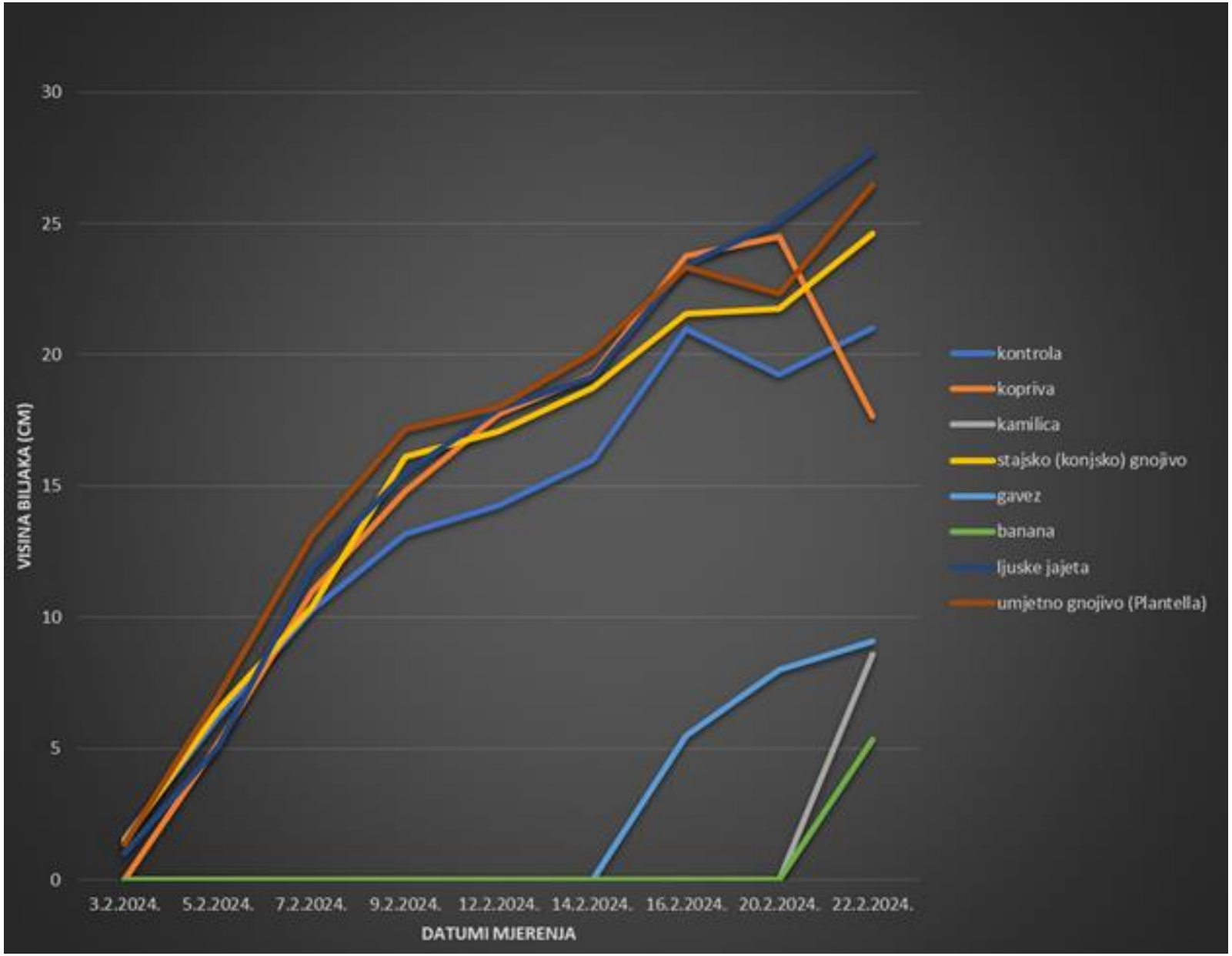


Figure 12. Results of plant growth measurements (average plant height in cm)

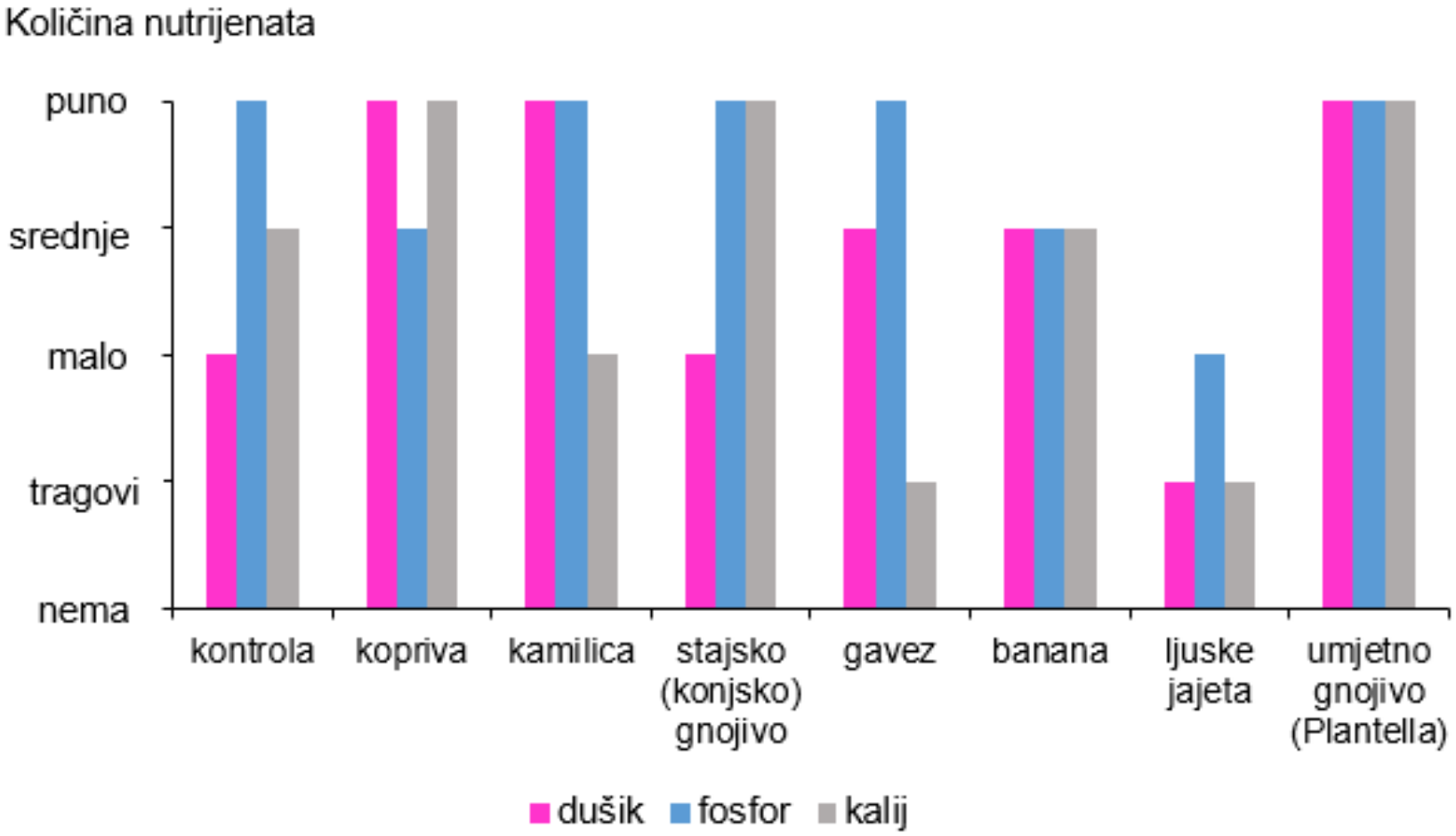


Figure 13. Results of soil fertility analysis after the experiment

4. CONCLUSIONS

Potassium and phosphorus are the most important for pumpkin growth. Nitrogen affects the resistance of plants to high and low temperatures and diseases.

Natural fertilizers have a more effective effect, which is evident in eggshells.

4. ZAKLJUČCI

The most suitable natural plant fertilizer for growing pumpkins, nettle fertilizer, has not been proven by this research. It has been proven that the most suitable fertilizer is made from chicken egg shells.

Natural fertilizer of animal origin has a stronger effect on pumpkin growth compared to plant fertilizers.

Promotion of our project to the local community in a guest appearance on Radio Northwest

Thank you for your attention!