



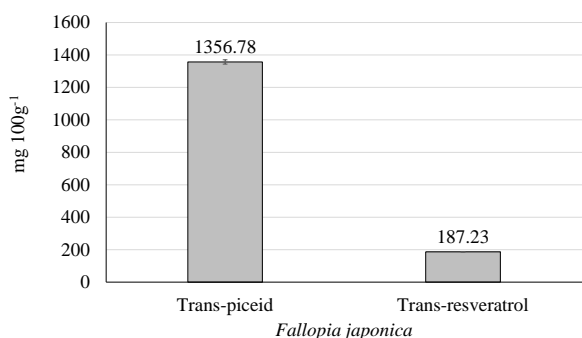


### Statistical analysis

The results were processed by mathematical and statistical methods (mean, standard deviation) using Microsoft Office Excel 2016.

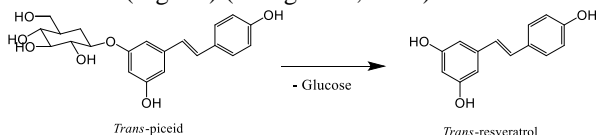
### Results and Discussion

The obtained results of research showed, that the main anti-aging compounds detected by HPLC method in *Fallopia japonica* were stilbenes: *trans*-resveratrol and *trans*-piceid (Fig. 10).



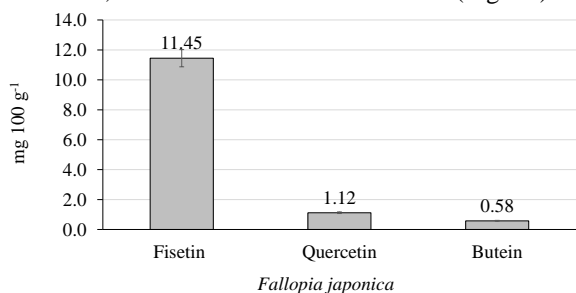
**Figure 10.** Content of *trans*-piceid and *trans*-resveratrol

In roots powder *trans*-piceid content was very high 1356.78 mg 100 g<sup>-1</sup> comparing to other anti-aging compounds in the sample. *Trans*-resveratrol content 187.23 mg 100 g<sup>-1</sup> was approximately seven times lower than *trans*-piceid. Another results showed that content of both substances can be in range from 670 to 1220 mg 100 g<sup>-1</sup> for *trans*-piceid and 104 to 390 mg 100 g<sup>-1</sup> for *trans*-resveratrol (Lin et al., 2016; Zhang et al., 2015; Jin et al., 2013). *Trans*-piceid is a glucoside and it is natural precursor of *trans*-resveratrol (De Maria et al., 2013). *Trans*-piceid is metabolized in the small intestine of human body to form of *trans*-resveratrol (Fig. 11) (Wang et al., 2013).



**Figure 11.** Biotransformation of *trans*-piceid to *trans*-resveratrol (Wang et al., 2013)

Besides *trans*-piceid and *trans*-resveratrol in plant root fisetin was detected in significantly lower concentrations. The remaining compounds, quercetin and butein, were detected in trace amounts (Fig. 12).



**Figure 12.** Content of fisetin, quercetin and butein

Fisetin content was 11.45 mg 100 g<sup>-1</sup>, quercetin 1.12 mg 100 g<sup>-1</sup> and butein 0.58 mg 100 g<sup>-1</sup>, respectively

### Conclusions

In research it was detected that the main anti-aging compound phytochemicals in extract of *Fallopia japonica* roots were *trans*-piceid and *trans*-resveratrol and those are good source for activating Sirtuin gene that increase longevity.

### References

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