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№	Name	Source
	Dihydroquercetin Sample	**Siberian Larch**

The obtained dry samples were mixed with 70% ethanol in a ratio of 1:5 (g:mL) and 1:7 (g:mL) in the case of sample No. 3. The mixtures were infused for 1 hour at 22±2°C with periodic stirring. The extracts were then centrifuged using an Eppendorf 5427R centrifuge (Eppendorf, Germany) at 10,000 rpm and 4°C for 8 minutes. The supernatant was collected and stored at -40°C. On the day of the experiment, the samples were thawed at 4°C and centrifuged again using the Eppendorf 5427R centrifuge (Eppendorf, Germany) at 10,000 rpm and 4°C for 8 minutes.

The antioxidant capacity by the ORAC method was measured according to the procedure using black 96-well plates on a Fluoroskan Ascent FL (Thermo Labsystems, Finland). Each well was filled with 30 µL of the sample diluted with phosphate buffer or quercetin (Sigma-Aldrich, India) at concentrations ranging from 2 to 12 µM to create calibration curves. For blank samples, 30 µL of 75 mM phosphate buffer (pH 7.4) was used instead of the sample. Then, 200 µL of freshly prepared 0.5 µM sodium fluorescein (Sigma-Aldrich, USA) was added to each well. The plate was sealed with protective film (SSIbio, USA) and incubated in the instrument for 30 minutes at 37°C, after which 30 µL of 153 µM AAPH (2,2'-Azobis(2-methylpropionamidine) dihydrochloride, Aldrich Chemistry, USA) was added to the reaction mixture. Fluorescence intensity measurements were performed at 37°C for 60 minutes with readings taken every 5 minutes, using excitation and emission wavelengths of 485 nm and 535 nm, respectively. The ORAC values of the samples were expressed in µmol-equivalents of quercetin (Q.)/g of sample, calculated using a calibration curve (R^2>0.99) based on the area under the curve after subtracting the blank (phosphate buffer). The area under the curve was calculated automatically using Ascent Software for Fluoroskan Ascent FL, and further calculations were performed using Microsoft Excel and STATISTICA 10.

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The total antioxidant capacity by the Ferric Reducing Antioxidant Power (FRAP) method was measured using an SF-2000 spectrophotometer (OKB "Spectr," Russia) following the procedure [4]. The FRAP reagent was prepared by mixing 0.3 M acetate buffer (pH 3.6), 10 mM TPTZ solution (BLDpharm, China) dissolved in 40 mM hydrochloric acid, and 20 mM aqueous ferric chloride (III) solution (PanReac AppliChem, Spain) in a 10:1:1 ratio. To measure antioxidant capacity, 1.45 mL of freshly prepared FRAP reagent and 50 µL of the sample diluted with distilled water, depending on activity, or distilled water (for the blank sample) were placed in a test tube. The reaction mixture was incubated for 30 minutes at 37±0.5°C in the dark, and optical density was recorded in cuvettes with a path length of 1 cm at 594 nm. Measurements for each sample were performed in quadruplicate. The antioxidant capacity of the samples was expressed in µmol-equivalents of quercetin (Q.)/g of raw material, calculated using a calibration curve (R^2>0.99) based on the dependence of optical density on the concentration of the standard antioxidant. The calibration curve was constructed using quercetin (Sigma-Aldrich, India) at concentrations ranging from 140 µM to 300 µM.

The total antioxidant capacity by the DPPH radical scavenging method was measured using an SF-2000 spectrophotometer (OKB "Spectr," Russia) according to the procedure. A stock 1 mM ethanol solution of DPPH radical (Santa Cruz Biotechnology, USA) was prepared in dark glassware and left to incubate in the dark at 22±2°C for 12 hours. Before measurement, a working DPPH solution with a concentration of 100 µM and an optical density of 1.10±0.15 absorbance units was prepared. For determining the antioxidant capacity of ethanol extracts of onion husks and pâté, 1.52 mL of working DPPH solution and 80 µL of the sample, 96% ethanol (blank), or quercetin at concentrations of 100-250 µM (for the calibration curve) were added to glass test tubes. The reaction mixture was vigorously shaken and incubated in the dark at 22±2°C for 30 minutes. The optical density of the solutions was measured

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in cuvettes with a path length of 1 cm at 517 nm. Measurements for each sample were performed in quadruplicate. The antioxidant capacity was calculated using the calibration curve (R^2>0.99), which showed the percentage of radical scavenging activity (RSA) as a function of quercetin concentration, and expressed in µmol-equivalents of quercetin (Q.)/g of raw material.

$$\mathrm{OAE}_{\boldsymbol{DPPH}} = \frac{\left(\frac{\boldsymbol{D}_{\mathrm{x}} - \boldsymbol{D}_{\boldsymbol{o}}}{\boldsymbol{D}_{\mathrm{x}}}\right) \cdot \mathbf{100\%} - \mathbf{4,6904}}{\mathbf{0,3081}}$$

Where D_x is the optical density of the blank sample and D_o is the optical density of the sample.

The range of values in the dataset analyzed for each sample was used to determine the "Mean Value" (Mean) and "Standard Deviation" (SD).

The results obtained of the total antioxidant capacity, determined by different methods for the analyzed samples, considering dilution and recalculation per gram of the sample, are presented in the tables below:

Sample	mmol-equivalents Q./g of sample (replicates)					Mean± SD
	1	2	3	4	5	
2	5166,84	5358,43	5234,27	5467,91	5276,32	5300,76±116,42

Table 3. ORAC TAC of samples, µmol-equivalents Q./g

The obtained results of the total antioxidant capacity, determined by the FRAP method for the analyzed samples, considering dilution and recalculation per gram of the sample, are presented in Table 5.

Table 5. DPPH FRAP of the sample, µmol-equivalents Q./g

Sample	mmol-equivalents Q./g of sample (replicates)				Mean± SD
	1	2	3	4	
2	485,36	481,1	477,22	482,29	481,49±3,37

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The obtained results of the total antioxidant capacity, determined by the DPPH method for the analyzed sample, considering dilution and recalculation per gram of the sample, are presented in Table 7.

Table 7. DPPH TAC of the sample, µmol-equivalents Q./g

Sample	mmol-equivalents Q./g of sample (replicates)				Mean±SD
	1	2	3	4	
2	833,19	808,89	831,78	833,82	826,92±12,05

Table 8 presents all TAC results determined for the sample analyzed as mean values and standard deviations.

Table 8. TAC values for Sample 2

Sample		mmol-equivalents Q./g of sample, Mean ± SD		
№	Name	OAE_{ORAC}	OAE_{FRAP}	OAE_{DPPH}
2	Dihydroquercetin Sample No. 2	5300,76±116,42	481,49±3,37	826,92±12,05