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ANALYSIS OF THE CONTENT OF WATER-SOLUBLE VITAMINS IN TURNIP AND CARROT LEAVES

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Abstract

This in the article turnip and carrot of plants leaves in the content in the water solvent vitamins amount chemical analysis Analysis to the result according to carrot and turnip The leaf is also a root vegetable. such as useful and healer that Their Vitamin and mineral content of carrots and turnip from the leaves in the future people in medicine usable healer food addition to take for enough that showed .

Key words

turnip , carrot , leaf , vitamins , proteins , vitamin C, vitamin K, B group vitamins

Today on the day population healthy to eat was need increasing food , food of products biological value increase the issue current from problems to one In particular , natural from sources removable vitamins , minerals and biological active plant rich in compounds from raw materials effective use important scientific and practical importance profession Plants not only root vegetables , maybe often consumption undoable leaf parts are also valuable chemical to the content has are , they are human health for necessary was many substances source is considered .

Turnip (Brassica rapa L.) and carrot (Daucus carota L.) Our Republic in the territory wide cultivated , people farm and food in the industry important place catcher are plants . In practice this of plants mainly root vegetables consumption is done , their leaves and enough at the level unrated without waste as remains . However , scientific research this Turnips show and carrot leaves in the composition in the water solvent vitamins (vitamin C , group B) vitamins), minerals , antioxidants to the feature has phytochemical compounds high in quantity occurs .

In the water solvent vitamins in the body metabolic processes activation , immune system strengthening , oxidizing stress reduce and heart and blood vein and nerve system activity in support important role plays . That's why this vitamins natural in the sources amount determination and assessment current scientific from tasks one It is considered an antioxidant . to activity has was plant extracts study them functional foods and biological active additions in the composition application prospects open gives .

This of the research main purpose In Uzbekistan cultivated turnip and carrot plants leaves in the content in the water solvent vitamins amount chemical analysis to do , their anti-radicalism activity assessment and taken results based on this of leaves natural antioxidant and healer food addition as scientific and practical importance from determining consists of .

Turnip leaf and Carrot leaf based on 1:1, 3:1 and 1:3 ratios juicy extract samples prepared. Samples extracts 1 g of plant in preparation Soak the sample in 25 ml of 96% ethanol for 20 minutes. ultrasonic in the bath extraction to do with done increased. Obtained extract 0.45 with a micrometer syringe from the filter conducted, analysis for used .

Table 1.

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DPPH solution added empty and verifiable **Turnip leaf – Carrot leaf** on a 1:1 basis juicy extraction made of samples measured light absorption and calculated anti-radicalism activity values .

Volume, µl	Time minutes . ,	sample					
		Abs , D	AA%		Time minutes. ,	Abs ,D	AA%
25	0	1,054	0.00	75	0	1,054	0.00
	5	0.981	6.93		5	0.948	10.06
	10	0.963	8.63		10	0.848	19.54
	15	0.953	9.58		15	0.824	21.82
	20	0.942	10.63		20	0.803	23.81
	25	0.931	11.67		25	0.784	25.62
	30	0.923	**12.43**		**30**	0.766	**27.32**
50	0	1,054	0.00	100	0	1,054	0.00
	5	0.975	7.50		5	0.879	16.60
	10	0.928	11.95		10	0.718	31.88
	15	0.91	13.66		15	0.684	35.10
	20	0.895	15.09		20	0.655	37.86
	25	0.882	16.32		25	0.629	40.32
	30	0.865	**17.93**		**30**	0.607	**42.41**

Table 2.

DPPH solution added empty and verifiable **Turnip leaf – Carrot leaf** based on 3:1 juicy extraction made of samples measured light absorption and calculated anti-radicalism activity values .

Volume, µl	Time minutes . ,	sample					
		Abs , D	AA%		Time minutes . ,	Abs , D	AA%
25	0	1,036	0.00	75	0	1,036	0.00
	5	1,009	2.61		5	0.958	7.53
	10	0.996	3.86		10	0.95	8.30
	15	0.993	4.15		15	0.944	8.88
	20	0.984	5.02		20	0.936	9.65
	25	0.976	5.79		25	0.929	10.33
	30	0.97	**6.37**		**30**	0.911	**12.07**
50	0	1,036	0.00	100	0	1,036	0.00
	5	0.97	6.37		5	0.938	9.46
	10	0.965	6.85		10	0.919	11.29
	15	0.961	7.24		15	0.916	11.58
	20	0.952	8.11		20	0.907	12.45
	25	0.947	8.59		25	0.892	13.90
	30	0.935	**9.75**		**30**	0.872	**15.83**

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Table 3.

DPPH solution added empty and verifiable **Turnip leaf – Carrot leaf** based on 1:3 juicy extraction made of samples measured light absorption and calculated anti-radicalism activity values .

Volume, µl	Time minutes . ,	sample					
		Abs , D	AA%		Time minutes . ,	Abs , D	AA%
25	0	1,049	0.00	75	0	1,049	0.00
	5	0.977	6.86		5	0.925	11.82
	10	0.971	7.44		10	0.9	14.20
	15	0.967	7.82		15	0.874	16.68
	20	0.963	8.20		20	0.856	18.40
	25	0.96	8.48		25	0.847	19.26
	30	0.956	**8.87**		**30**	0.833	**20.59**
50	0	1,049	0.00	100	0	1,049	0.00
	5	0.96	8.48		5	0.819	21.93
	10	0.943	10.10		10	0.786	25.07
	15	0.931	11.25		15	0.759	27.65
	20	0.912	13.06		20	0.742	29.27
	25	0.907	13.54		25	0.727	30.70
	30	0.9	**14.20**		**30**	0.713	**32.03**

Table 4.

Samples 100 µl of aqueous extracts for 30 minutes anti-radicalism activities values (AA%)

Time	AA%		
	Turnip Leaf-Carrot leaf 1:1	**Turnip Leaf-Carrot leaf 1:3**	**Turnip leaf-Carrot leaf 3:1**
30th minute	**42.41**	**15.93**	**32.03**

Table 5.

IC $_{50}$ of samples – up to 50% of DPPH solution inhibition concentration (µl)

Time	IC50		
	Turnip Leaf-Carrot leaf	**Turnip Leaf-Carrot leaf**	**Turnip Leaf-Carrot leaf**

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	1:1	3:1	1:3
30th minute	**125.19**	**325.76**	**163.21**

Research results this Turnips show and carrot from the leaves prepared juicy extracts noticeable anti-radical to activity Especially in **a 1:1 ratio 42.41% of the extract was free in 30 minutes radicals reduce and IC_{50} value of 125.19 µl to be his/her high antioxidant evidence gives .** This extract oxidizing to stress against natural protection tool as significant naturally antioxidant source as shows.Received information ecological factors impact intensifying going under the circumstances biological active substances natural from plants to take and them mutual harmonization the necessity confirms .

In general when you get it , turnip and carrot leaves extracts anti-radical features them in the future biological active additives , functional foods or pharmaceutical drugs in the composition natural antioxidant source as application prospects open This gives situation human and nature between mutual harmony scientific is an expression and natural from resources reasonable of use health storage in the field practical importance shows .

Conclusion :

This in the article In Uzbekistan cultivated turnip (Brassica rap L) and carrot (Daucus carrot L) o ' plants leaf chemical composition studied , and turnip (Brassica rap L) and carrot (Daucus carrot L) o ' plants leaf in the content in the water solvent vitamins amount chemical analysis was done . In this turnip and carrot on the leaf vitamins in alcohol extract in the content in the water solvent vitamins amount YuSSX in the way determined and analysis was done .

In our country carrot and turnip mainly root vegetable consumption But carrots and turnip leaf in the composition vital nutritional minerals , vitamins because of the abundance of them people in medicine usable healer food addition to prepare big attention In particular , carrots and turnip leaf different kind useful to the features has phytochemical substances existence because of health in storage this of leaves consumption medical medicinal solution is considered .

From vitamins and in the water solvent vitamins amount many that from outside accessible vitamins encourages and daily need satisfies . Today on the day food natural accordingly storage , artificial from additions escape is okay with new products working in the release carrot and turnip leaf functional products to the ranks add for enough is considered rich .

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