NUMERICAL DATA

Comparative investigation of fluoride adsorption using different absorbents (2018)

Adsorbent		Isotherm Model	pH	Capacity (mg/g)
Natural materials	Natural pumice	F	6.0	4.50
	Natural pumice	F	3.0	1.170
	Natural geomaterial limonite (Iron Ore)	L	7.0	0.269
	Kaolinite clay	L		1.450
	Montmorillonites	F	6.0	3.365
	Untreated reed root	L	7.0	3.547
	Untreated reed stem	L	7.0	0.655
	Untreated reed leaf	L	7.0	0.669
Modified materials	Modified pumice with $FeCl_3$	F	3.0	21.740
	Modified pumice with HDTMA	F	3.0	25.000
	Modified magnetite ore with aluminum and lanthanum ions	L	7.8	M-Al 1.51 M-Na 1.42
	Modified montmorillonite with Fe(III)	L	4.5	9.696
	Modified chitosan with neodymium	L	7.0	22.380
	Modified zeolite with calcium chloride	F/L		1.766
	Desugared reed root	L	7.0	10.860
	Desugared reed stem	L	7.0	6.405
	Desugared reed leaf	L	7.0	5.497
Synthetic materials	$MnCO_3$ nanowires	L	7.0	11.580
	Graphene oxide (GO)-incorporated iron-aluminium mixed oxide	L	7.0	22.900
	Ce-Ti oxides nanoparticles	L	7.0	44.370
	Ce-Ti@Fe_3O_4 nanoparticles	L	7.0	91.070

Source:https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5800200/table/ijerph-15-00101-t003/?report=objectonly

Comparison of maximum sorption capacity of fluoride with Pistia stratiotes and biosorbents (2018)

Adsorbent	Maximum adsorption capacity	Reference
Used tea leaves	0.52 mg g^{-1} DW	Methodia and Selvapathy (2005)
Tamarind seed	6.37 mg g^{-1} DW	Murugan and Subramanian, 2006
***Moringa indica* based activated carbon**	0.23 mg g^{-1} DW	Karthikeyan and Ilango, 2007
Spirogyra sp. –IO2	1.27 mg g^{-1} DW	Mohan et al., 2007
Pleurotus ostreatus 1804	1.27 mg g^{-1} DW	Rmanaiah et al., 2007
Tea Waste	3.83 mg g^{-1} DW	Cai et al. 2015
Pista stratiotes	0.006 mg g^{-1} DW	Karmaka et al., 2018

Source: https://link.springer.com/article/10.1007/s13762-017-1439-3

Fluoride accumulation in different plant species. (2018)

Plants Name (botanical name)	Fluoride conc. ($\mu g\ g^{-1}$)	References
Wheat Triticum *aestivum*	5.04±0.15 2.59–4.60	Devika and Nagendra (2009); Jha et al. (2008); Gupta and Deshpande (1998); Jagtap et al. (2012)
Spinach *Spinacea oleracea*	29.15±0.03 42.3±4.1 0.77–4.14	
Cabbage *Brassica oleracea var. capitata*	11.30±0.03	Devika and Nagendra (2009)
Cauliflower *Brassica oleracea var. botrytis*	12.09±0.14	
Fodder	17.53±0.08	
Carrot *Daucus carota subsp. sativus*	10.75±0.04	
Lady Finger *Abelmocus esculenta*	22.19±0.09 1.74–4.00	Devika and Nagendra (2009); Gupta and Deshpande (1998); Jagtap et al. (2012)
Onion *Allium cepa*	10.50±0.09 1.00–3.70	
Potato *Solanum tuberosum*	11.95±0.53 1.27–2.92	
Tomato *Lycopersicon esculuntum*	13.48±0.08	Devika and Nagendra (2009)
Mustard *Brassica juncea*	14.44±0.18	Gautam et al. (2010)
Barley Hordeum vulgare	4.84±0.12	
Vigna radiata	10.700±0.23	
Radish Raphanus raphanistrum subsp. sativus	22.20±0.19	
Pea *Pisum sativum*	8.34±0.11	
Bathua *Chenopodium album*	13.24±0.20	
Coriander	26.94±0.16	Gupta and Banerjee (2011)

Coriandrum sativum		
Bean ***Phaseolus sp.***	15.26±0.32	
Sweet potatoes ***Ipomoea batatas***	0.14±7.0	Gupta and Deshpande (1998); Jagtap et al. (2012)
Sponge gourd ***Luffa cylindrica***	12.8 ± 0.8	Jha et al. (2008)
Banana ***Musa***	0.84-2.90	Gupta and Deshpande (1998); Jagtap et al. (2012)
Grapes ***Vitis Vinifera***	0.84-1.74	
Apple ***Malus***	1.05-5.7	
Guava ***Psidium guajava***	0.24-5.10	
Mango ***Magnifera indica***	0.80-3.70	
Bengal gram ***Cicer arietinum***	3.84-14.8	
Green gram ***Vigna radiata***	2.34-21.2	
AlfaAlfa ***Brome*** ***Orchard*** ***Alta Fescue***	130 106 97 102	Miller et al., 1999
Acalypha indica ***Abutilon indicum*** ***Cleome viscosa*** ***Cassia occidentalis*** ***Ipomea biloba*** ***Asystesia gigantica*** ***Euphorbia hirta*** ***Clitoria ternate*** ***Acacia Arabica*** ***Merremia tridentata*** ***Amaranthus viridis***	12.1 9.8 1.5 5.6 23.1 15.2 12.3 4.6 9.1 5.2 12.1	Devi et al., 2016

Source: https://www.ncbi.nlm.nih.gov/pubmed/29649763