

Anorganisch arseen & Arsenobetaine

Onderstaande trendanalyse betreft de resultaten die tussen 2012 en 2018 in het FAVV controleplan gerapporteerd werden voor anorganisch arseen (iAs) in levensmiddelen ($n = 673$) en tussen 2015 en 2018 voor arsenobetaine (AsB) in levensmiddelen ($n = 366$).

In onderstaande trendanalyse wordt (waar mogelijk relevant) een vergelijking gemaakt met de arseen (As) gehalten die voor dezelfde matrices tijdens dezelfde periode waarin iAs geanalyseerd werd, gerapporteerd werden.

De gehalten worden voor de trendanalyse en in onderstaande figuren uitgedrukt als mg As, iAs of AsB /kg product.

Matrix	Parameter	Samples	Non-detects	Years	Annual change	P-value	Interpretation	Remark	Limit
Granen	iAs	169	39 (23%)	7	1,343	0,000	Increasing trend		
	AsB	91	91 (100%)	4	NA	NA	NP		
Rijst	As	129	10 (8%)	6	0,980	0,451	Non-significant		
	iAs	129	8 (6%)	6	1,072	0,021	Increasing trend		0,20 –
	AsB	79	79 (100%)	4	NA	NA	NP		0,25 mg
									iAs/kg ^{(3) (4)}
Tarwe	As	66	50 (76%)	6	0,898	0,314	Non-significant		
	iAs	40	31 (78%)	6	1,341	0,053	Non-significant		
	AsB	12	12 (100%)	3	NA	NA	NP		
Crackers	As	44	4 (9%)	3	0,896	0,546	Non-significant		
	iAs	40	0 (0%)	3	1,047	0,783	Non-significant		0,30 mg
	AsB	40	40 (100%)	3	NA	NA	NP		iAs/kg ^{(3) (5)}
Brood	As	35	13 (37%)	4	0,602	0,011	Decreasing trend		
	iAs	35	30 (86%)	4	1,096	0,755	Non-significant		
	AsB	15	15 (100%)	2	NA	NA	NP		
Afgeleide graanproducten	iAs	4	2 (50%)	2	1,077	0,917	Non-significant	Onvoldoende resultaten	
	AsB	4	4 (100%)	2	NA	NA	NP		
Bereidingen op basis van granen	iAs	27	10 (37%)	3	2,629	0,000	Increasing trend		
	AsB	27	26 (96%)	3	0,000	0,999	Non-significant		
Graanrepen	iAs	6	3 (50%)	2	2,087	0,000	Increasing trend	Onvoldoende resultaten	
	AsB	6	5 (83%)	2	0,000	0,999	Non-significant		
Ontbijtgranen	As	28	15 (54%)	3	1,815	0,057	Non-significant		
	iAs	15	4 (27%)	3	1,546	0,078	Non-significant		
	AsB	15	15 (100%)	3	NA	NA	NP		
Voedingspasta	iAs	6	3 (50%)	2	4,054	0,000	Increasing trend	Onvoldoende resultaten	

	AsB	6	6 (100%)	2	NA	NA	NP	
Voedingssupplementen	As	89	15 (17%)	6	0,622	0,001	Decreasing trend	
	iAs	61	16 (26%)	6	1,072	0,684	Non-significant	
	AsB	27	14 (52%)	4	0,717	0,532	Non-significant	
Producten en bereidingen van de visserij of de aquacultuur	iAs	137	102 (74%)	6	2,028	0,000	Increasing trend	
	AsB	80	4 (5%)	4	0,659	0,098	Non-significant	
Algen	As	30	3 (10%)	2	0,656	0,767	Non-significant	
	iAs	27	14 (52%)	2	1,062	0,977	Non-significant	
	AsB	27	4 (15%)	2	1,423	0,829	Non-significant	
Weekdieren	As	36	1 (3%)	5	1,035	0,659	Non-significant	
	iAs	25	9 (36%)	5	1,351	0,000	Increasing trend	
	AsB	15	0 (0%)	3	0,926	0,150	Non-significant	
Schaaldieren	As	35	0 (0%)	3	0,790	0,281	Non-significant	
	iAs	15	10 (67%)	3	1,279	0,519	Non-significant	
	AsB	5	0 (0%)	1	NA	NA	NP	
Vissen	As	88	4 (5%)	6	1,050	0,738	Non-significant	
	iAs	70	69 (99%)	6	0,833	0,832	Non-significant	
	AsB	33	0 (0%)	4	0,346	0,000	Decreasing trend	
Groenten	iAs ⁽²⁾	11	6 (55%)	4	1532,882	0,000	Increasing trend	Onvoldoende resultaten
	AsB	5	4 (80%)	1	NA	NA	NP	
Paddenstoelen	iAs	5	0 (0%)	1	NA	NA	NP	
	AsB	5	4 (80%)	1	NA	NA	NP	
Bijzondere voeding voor zuigelingen en kleuters	iAs	73	37 (51%)	6	1,116	0,165	Non-significant	
	AsB	32	28 (88%)	4	1,455	0,699	Non-significant	
Babyvoeding	As	30	11 (37%)	3	0,661	0,166	Non-significant	
	iAs	30	14 (47%)	3	1,238	0,160	Non-significant	
	AsB	10	9 (90%)	1	NA	NA	NP	
Bewerkte voedingsmiddelen op basis van granen	As	65	39 (60%)	6	0,782	0,065	Non-significant	
	iAs	41	21 (51%)	6	1,059	0,674	Non-significant	
	AsB	20	17 (85%)	3	0,524	0,576	Non-significant	
Groeimelk	iAs	2	2 (100%)	1	NA	NA	NP	
	AsB	2	2 (100%)	1	NA	NA	NP	
Melk, melkproducten en bereidingen op basis van melk	iAs	7	7 (100%)	1	NA	NA	NP	
	AsB	7	7 (100%)	1	NA	NA	NP	
Eieren	iAs	2	2 (100%)	1	NA	NA	NP	
	AsB	2	2 (100%)	1	NA	NA	NP	
Niet-alcoholische (plantaardige) dranken	As	70	53 (76%)	6	0,920	0,031	Decreasing trend	
	iAs	41	23 (56%)	6	1,018	0,716	Non-significant	

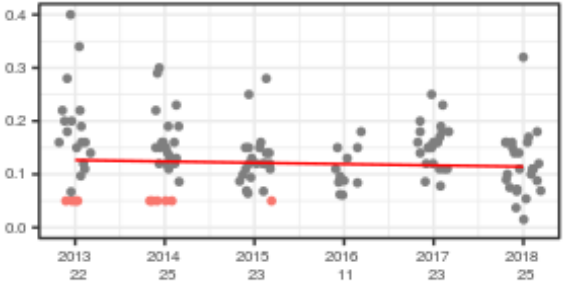
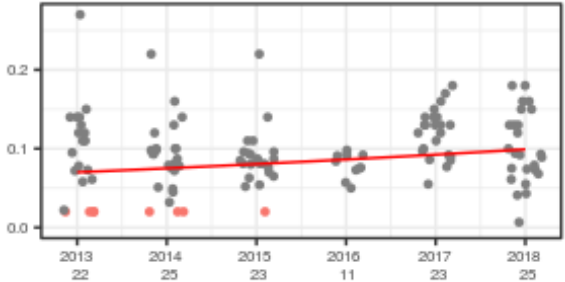
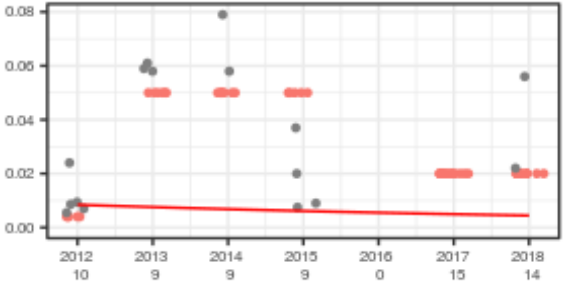
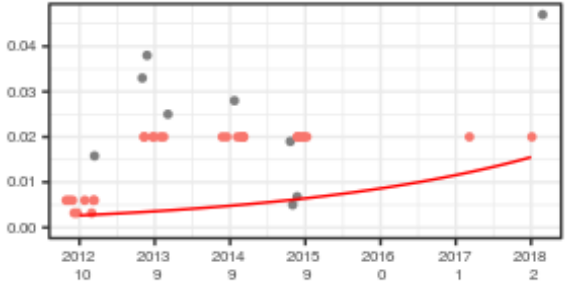
	AsB	18	18 (100%)	4	NA	NA	NP	
Koffie	As	15	11 (73%)	3	0,205	0,999	Non-significant	
	iAs	15	15 (100%)	3	NA	NA	NP	
Alcoholische dranken	As	39	34 (87%)	3	0,052	0,999	Non-significant	
	iAs	30	26 (87%)	3	0,714	0,000	Decreasing trend	
	AsB	5	5 (100%)	1	NA	NA	NP	
Gelatine	iAs	4	1 (25%)	2	0,971	0,979	Non-significant	
	AsB	4	4 (100%)	2	NA	NA	NP	
Vlees	iAs	4	4 (100%)	1	NA	NA	NP	
	AsB	4	4 (100%)	1	NA	NA	NP	
Snoep	As	7	1 (14%)	2	0,548	0,189	Non-significant	
	iAs	7	2 (29%)	2	6,501	0,000	Increasing trend	Onvoldoende resultaten
	AsB	4	3 (75%)	1	NA	NA	NP	
Diverse bereide producten ⁽¹⁾	iAs	6	1 (17%)	3	0,565	0,080	Non-significant	
	AsB	1	1 (100%)	1	NA	NA	NP	
Honing	iAs	2	2 (100%)	1	NA	NA	NP	
	AsB	2	2 (100%)	1	NA	NA	NP	

NP: No trend analysis possible; NA: not available

⁽¹⁾ zetmeel en noedels; ⁽²⁾ spinazie, wilde en gekweekte paddenstoelen; ⁽³⁾ Verordening (EG) nr. 1881/2006; ⁽⁴⁾ niet voorgedroogde volwitte rijst – voorgedroogde en gedopte rijst; ⁽⁵⁾ Rijstwafels, rijstvellen, rijstcrackers en rijstkoeken;

Opmerking: in SciCom advies 22-2014 wordt een wetenschappelijke benadering gegeven voor de terugroeping (recall) van levensmiddelen die met As of iAs verontreinigd zijn (SciCom, 2014)

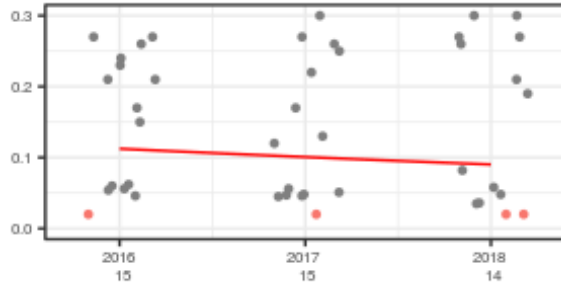
Y-as : gehalte aan As (mg As/kg product), iAs (mg iAs/kg product) of AsB (mg AsB/kg product); X-as: jaar + aantal stalen; resultaten lager dan de rapporteringslimiet ('left-censored' waarnemingen) zijn in het rood gemarkeerd

As (totaal)	iAs	AsB
<p>Rijst</p> <p>annual change: 0.98 (P = 0.451)</p> 	<p>Rijst</p> <p>annual change: 1.072 (P = 0.021)</p> 	<p>[NP]</p>
<p>Tarwe</p> <p>annual change: 0.898 (P = 0.314)</p> 	<p>Tarwe</p> <p>annual change: 1.341 (P = 0.053)</p> 	<p>[NP]</p>

As (totaal)

Crackers

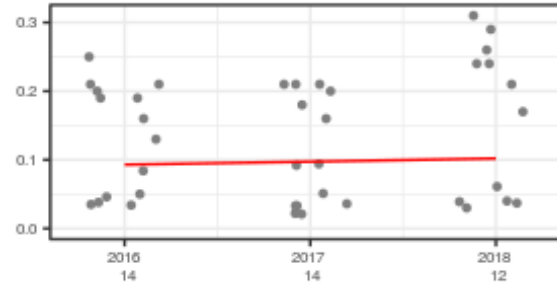
annual change: 0.896 (P = 0.546)



iAs

Crackers

annual change: 1.047 (P = 0.783)



AsB

[NP]

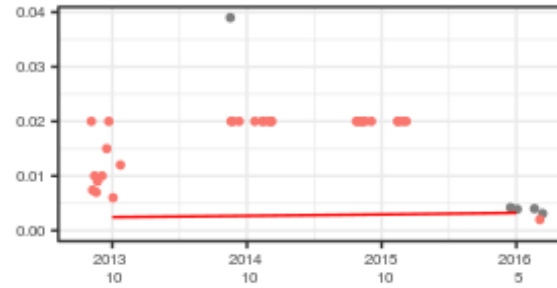
Brood

annual change: 0.602 (P = 0.011)



Brood

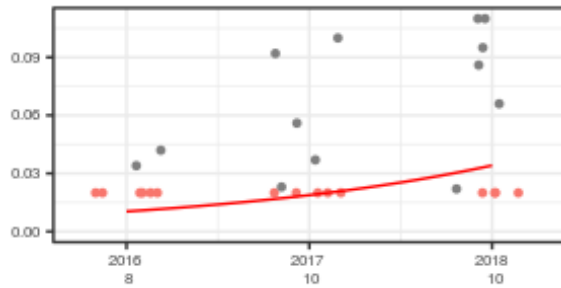
annual change: 1.096 (P = 0.755)



[NP]

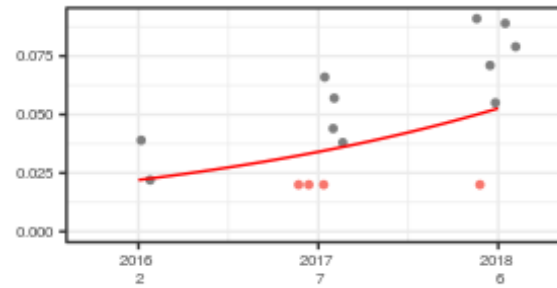
Ontbijtgranen

annual change: 1.815 (P = 0.057)



Ontbijtgranen

annual change: 1.546 (P = 0.078)

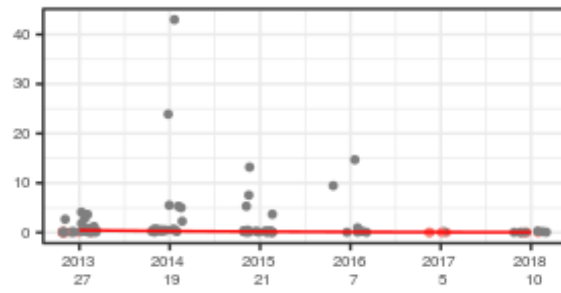


[NP]

As (totaal)

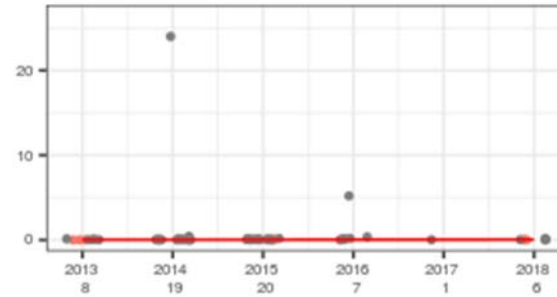
Voedingssupplementen

annual change: 0.622 (P < 0.001)

**iAs**

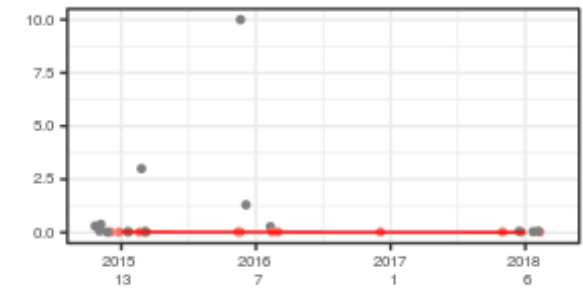
Voedingssupplementen

annual change: 1.072 (P = 0.684)

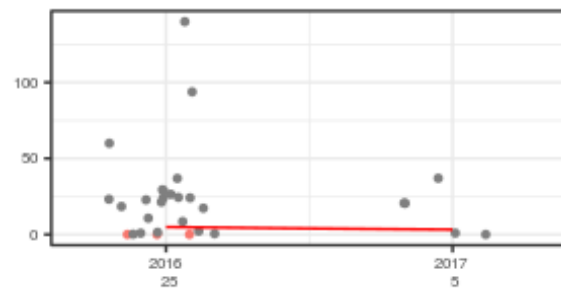
**AsB**

Voedingssupplementen

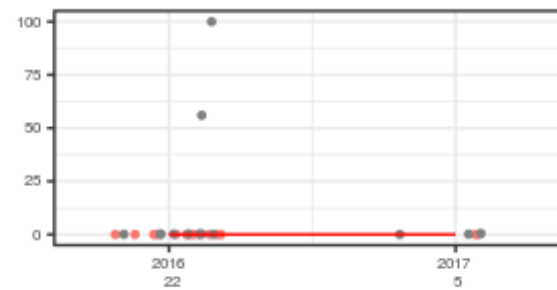
annual change: 0.717 (P = 0.532)

**Algen**

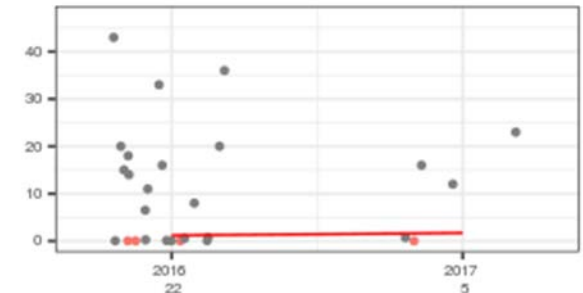
annual change: 0.656 (P = 0.767)

**Algen**

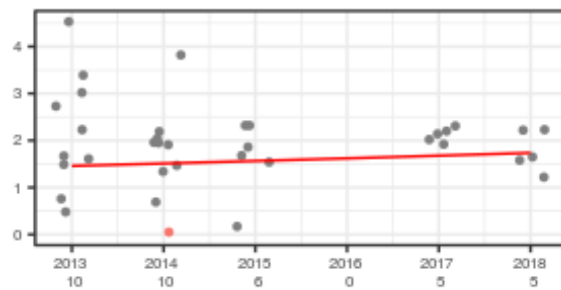
annual change: 1.062 (P = 0.977)

**Algen**

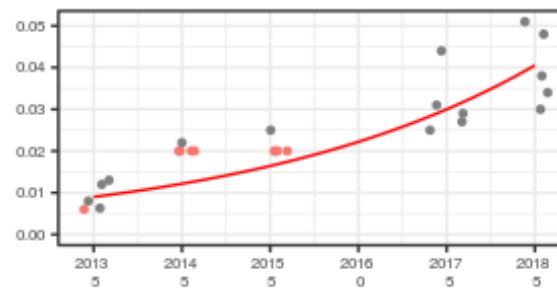
annual change: 1.423 (P = 0.829)

**Weekdieren**

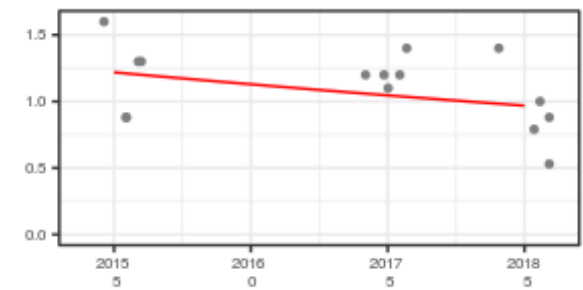
annual change: 1.035 (P = 0.659)

**Weekdieren**

annual change: 1.351 (P < 0.001)

**Weekdieren**

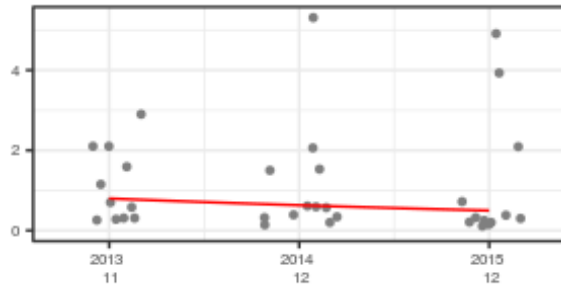
annual change: 0.926 (P = 0.15)



As (totaal)

Schaaldieren

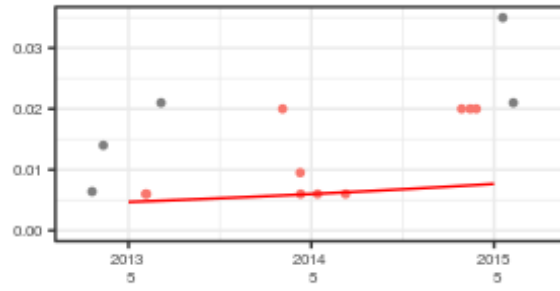
annual change: 0.79 (P = 0.281)



iAs

Schaaldieren

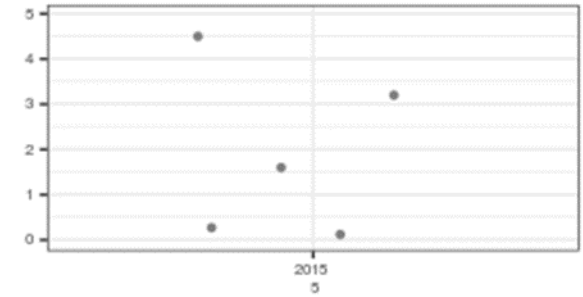
annual change: 1.279 (P = 0.519)



AsB

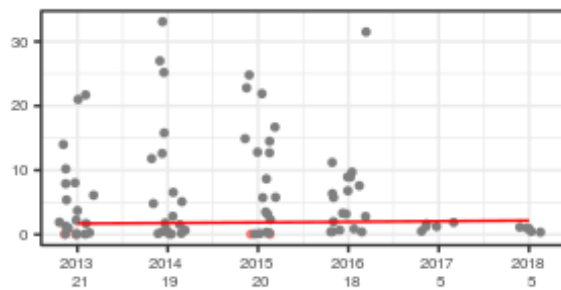
Schaaldieren

no trend analysis possible



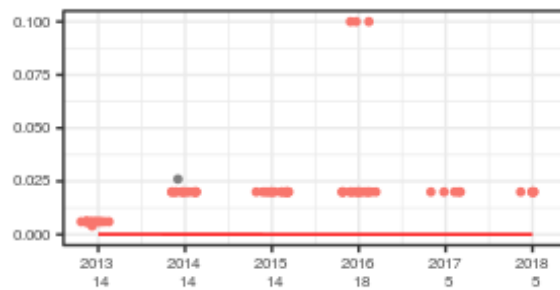
Vissen

annual change: 1.05 (P = 0.738)



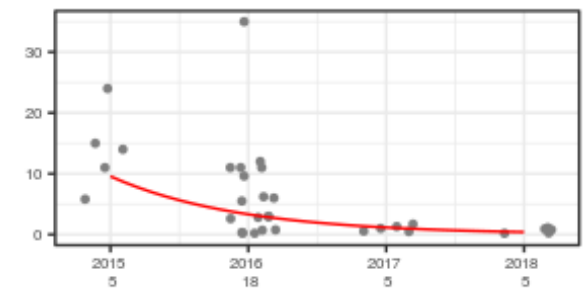
Vissen

annual change: 0.833 (P = 0.832)



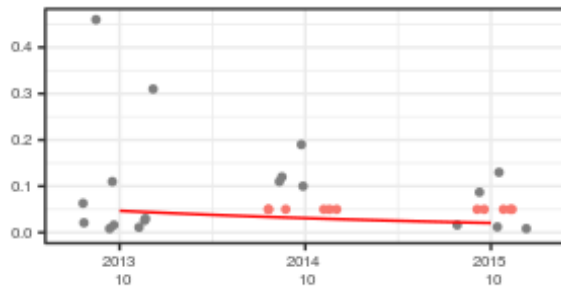
Vissen

annual change: 0.346 (P < 0.001)



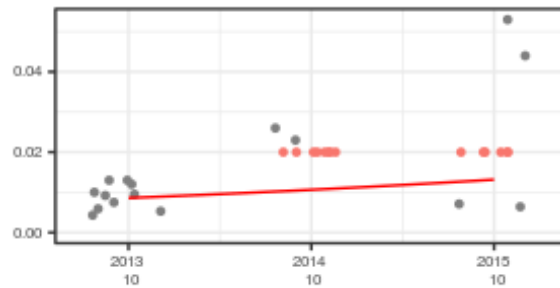
Babyvoeding

annual change: 0.661 (P = 0.166)



Babyvoeding

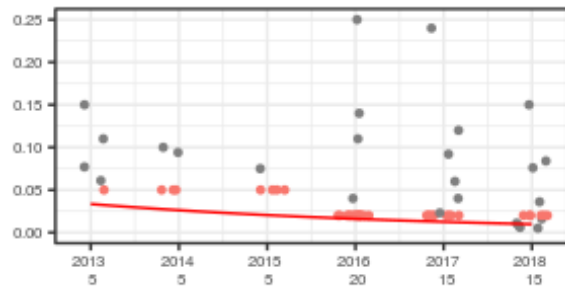
annual change: 1.238 (P = 0.16)



[NP]

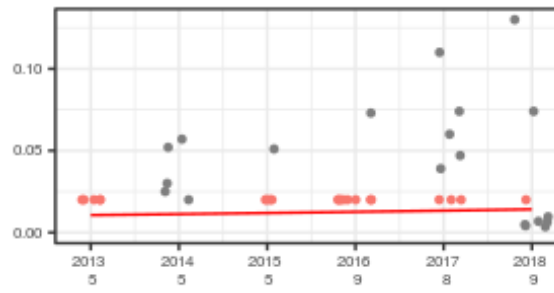
As (totaal)

Bewerkte voedingsmiddelen op basis van granen
annual change: 0.782 (P = 0.065)



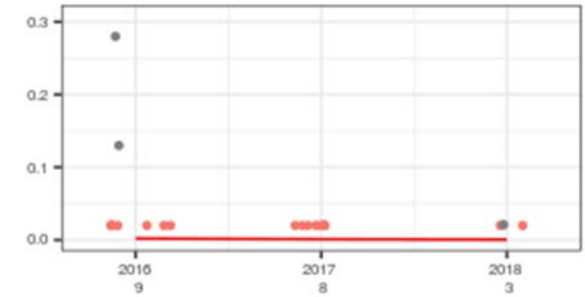
iAs

Bewerkte voedingsmiddelen op basis van granen
annual change: 1.059 (P = 0.674)



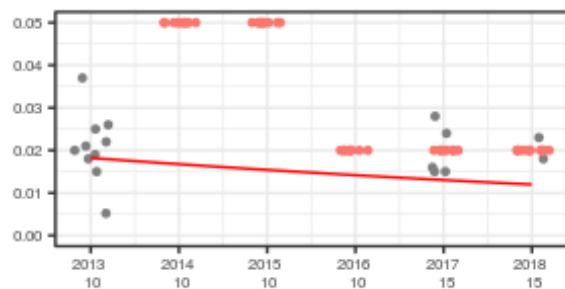
AsB

Bewerkte voedingsmiddelen op basis van granen
annual change: 0.524 (P = 0.576)



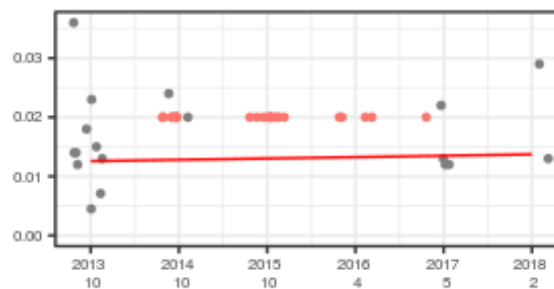
Plantaardige dranken

annual change: 0.92 (P = 0.031)



Plantaardige dranken

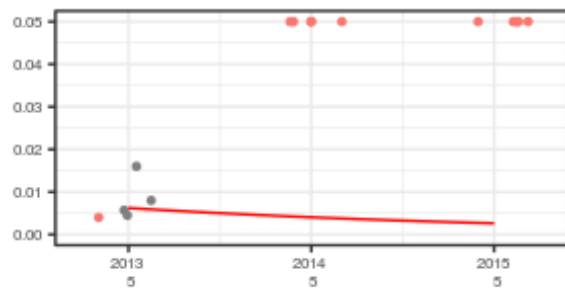
annual change: 1.018 (P = 0.716)



[NP]

Koffie

annual change: 0.65 (P < 0.001)



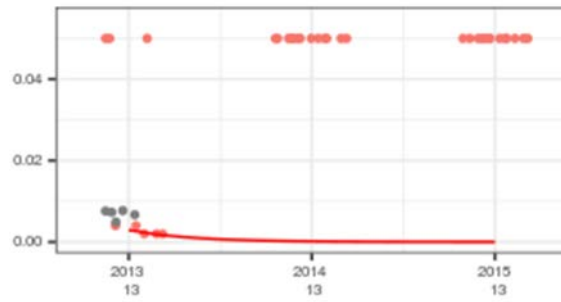
[NP]

[AsB werd niet geanalyseerd in koffie]

As (totaal)

Alcoholische dranken

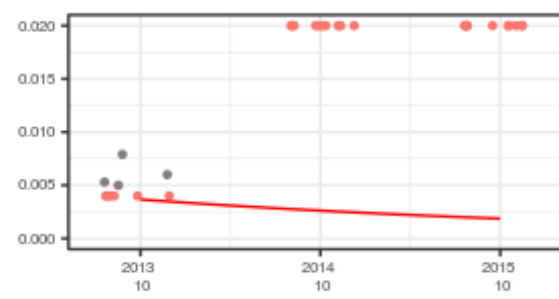
annual change: 0.052 (P = 0.999)



iAs

Alcoholische dranken

annual change: 0.714 (P < 0.001)



AsB

[NP]