

# Variation of dietary fiber content in 282 common bean genotypes from the middle american gene pool

*skammlade*

*31 May 2016*

Market Class	# Entries
pinto	91
navy	45
black	41
GN	40
small red	60
pink	22
carioca	2
tan	2
black mottle	1
flor de mayo	1
red mottle	1

```
summary(fiber[,7:14])
```

**282 entries from the BeanCAP study were grown in Fort Collins, CO in 2015 to determine variation in fiber content. All entries originated from the Middle American gene pool, and were further subdivided into the following races and market classes:**

##	IDF	SDF	IDF_SDF	Raff
##	Min. :11.30	Min. : 4.000	Min. :17.90	Min. :0.2000
##	1st Qu.:13.40	1st Qu.: 7.000	1st Qu.:21.10	1st Qu.:0.4000
##	Median :14.00	Median : 7.600	Median :21.80	Median :0.4000
##	Mean :14.14	Mean : 7.648	Mean :21.79	Mean :0.4504
##	3rd Qu.:14.80	3rd Qu.: 8.300	3rd Qu.:22.60	3rd Qu.:0.5000
##	Max. :18.90	Max. :10.400	Max. :25.80	Max. :1.0000
##	Stach	Verb	Toligos	TDF
##	Min. :2.800	Min. :0.0000	Min. :3.400	Min. :22.30
##	1st Qu.:3.600	1st Qu.:0.1000	1st Qu.:4.100	1st Qu.:25.40
##	Median :3.800	Median :0.1000	Median :4.400	Median :26.20
##	Mean :3.847	Mean :0.1002	Mean :4.396	Mean :26.19
##	3rd Qu.:4.100	3rd Qu.:0.1000	3rd Qu.:4.700	3rd Qu.:27.00
##	Max. :6.500	Max. :0.3000	Max. :7.500	Max. :31.10

Tables below show 5 entries with the greatest and lowest values of each fiber component, including standard deviation, standard error and confidence intervals

## Insoluble Dietary Fiber (IDF)

##	Entry	mktclass	race	IDF	sd	se	ci
## 1:	PRO443-151	black	mesoamerican	16.91	1.55	1.09	13.889779
## 2:	CDC Pinnacle	pinto	durango	16.73	2.76	1.95	24.800427
## 3:	CDC Jet	black	mesoamerican	16.71	1.32	0.94	11.901595
## 4:	TARS-VCI-4B	pinto	durango	16.46	3.43	2.42	30.794445
## 5:	TARS09-RR007	small red	jalisco	16.42	0.51	0.36	4.593329

##	Entry	mktclass	race	IDF	sd	se	ci
## 1:	BelMiNeb-RMR-4	navy	mesoamerican	12.34	0.11	0.08	0.9665865
## 2:	BelMiNeb-RMR-8	navy	mesoamerican	12.05	0.38	0.27	3.4343093
## 3:	BelMiNeb-RMR-7	navy	mesoamerican	11.77	0.31	0.22	2.7697138
## 4:	BelMiNeb-RMR-3	GN	durango	11.75	0.22	0.15	1.9667926
## 5:	AC Pintoba	pinto	durango	11.44	0.19	0.13	1.6955623

## Soluble Dietary Fiber (SDF)

##	Entry	mktclass	race	SDF	sd	se	ci
## 1:	Voyager	navy	mesoamerican	10.29	0.12	0.08	1.0333216
## 2:	SR7-3	small red	jalisco	9.83	0.83	0.59	7.4785581
## 3:	NW-63	small red	jalisco	9.81	0.43	0.30	3.8362222
## 4:	IP08-2	pinto	durango	9.48	0.76	0.53	6.7863365
## 5:	BelMiNeb 2	GN	durango	9.45	0.05	0.03	0.4199197

##	Entry	mktclass	race	SDF	sd	se	ci
## 1:	ABCP-15	pinto	durango	5.76	0.56	0.39	5.001012
## 2:	Quincy	pinto	durango	5.53	0.22	0.16	2.001713
## 3:	Centa Pupil	small red	jalisco	5.34	0.52	0.37	4.685913
## 4:	TARS-VCI-4B	pinto	durango	5.16	1.32	0.93	11.837830
## 5:	I9365-5	pink	jalisco	5.09	1.57	1.11	14.129284

## Raffinose (Raff)

##	Entry	mktclass	race	Raff	sd	se	ci
## 1:	NE1-09-20	GN	durango	0.92	0.06	0.04	0.5027495
## 2:	CDC Crocus	GN	durango	0.85	0.05	0.04	0.4676752
## 3:	I9365-31	black	mesoamerican	0.85	0.25	0.18	2.2439315
## 4:	A-55	black	mesoamerican	0.79	0.06	0.04	0.5558887
## 5:	NE1-09-9	GN	durango	0.79	0.10	0.07	0.8559262

##	Entry	mktclass	race	Raff	sd	se	ci
## 1:	Sawtooth	GN	durango	0.30	0.11	0.08	0.96428778
## 2:	USRM-20	small red	jalisco	0.30	0.03	0.02	0.27608538
## 3:	Bill Z	pinto	durango	0.28	0.01	0.01	0.12989700
## 4:	Ind. Jamaica Red	red mottle	jalisco	0.28	0.07	0.05	0.60108515
## 5:	Apache	pinto	durango	0.27	0.01	0.01	0.07248785

## Stachyose (Stach)

##	Entry	mktclass	race	Stach	sd	se	ci
## 1:	ND021717	black	mesoamerican	5.16	1.86	1.31	16.689706
## 2:	Centa Pupil	small red	jalisco	4.90	0.26	0.18	2.291898
## 3:	Ind. Jamaica Red	red mottle	jalisco	4.89	0.43	0.31	3.900070
## 4:	GN Star	GN	durango	4.78	0.17	0.12	1.566395
## 5:	Inta Precoz	small red	jalisco	4.70	0.28	0.20	2.482681

##	Entry	mktclass	race	Stach	sd	se	ci
## 1:	ND040494-4	pinto	durango	3.10	0.24	0.17	2.1129249
## 2:	NE1-09-9	GN	durango	3.07	0.32	0.23	2.8597011
## 3:	NE1-09-20	GN	durango	3.03	0.08	0.05	0.6912525
## 4:	T9905	navy mesoamerican		3.00	0.10	0.07	0.9327172
## 5:	F07-449-9-3	small red	jalisco	2.99	0.18	0.13	1.6056405

## Verbascose (Verb)

##	Entry	mktclass	race	Verb	sd	se	ci
## 1:	Ind. Jamaica Red	red mottle	jalisco	0.233	0.031	0.022	0.28081810
## 2:	Pink Floyd	pink	jalisco	0.233	0.002	0.001	0.01669660
## 3:	ROG 312	pink	jalisco	0.229	0.024	0.017	0.21621536
## 4:	ABC-Wei hing	GN	durango	0.201	0.016	0.011	0.14315775
## 5:	GN Star	GN	durango	0.201	0.002	0.002	0.01951718

##	Entry	mktclass	race	Verb	sd	se	ci
## 1:	NE1-09-22	GN	durango	0.038	0.001	0.001	0.01197923
## 2:	T9905	navy mesoamerican		0.037	0.011	0.008	0.09583154
## 3:	A-55	black mesoamerican		0.036	0.035	0.025	0.31711638
## 4:	GN9-4	GN	durango	0.033	0.032	0.022	0.28382897
## 5:	McHale	navy mesoamerican		0.021	0.006	0.004	0.04973606

## Total Oligosachharides (TOligos) = Raff + Stach + Verb

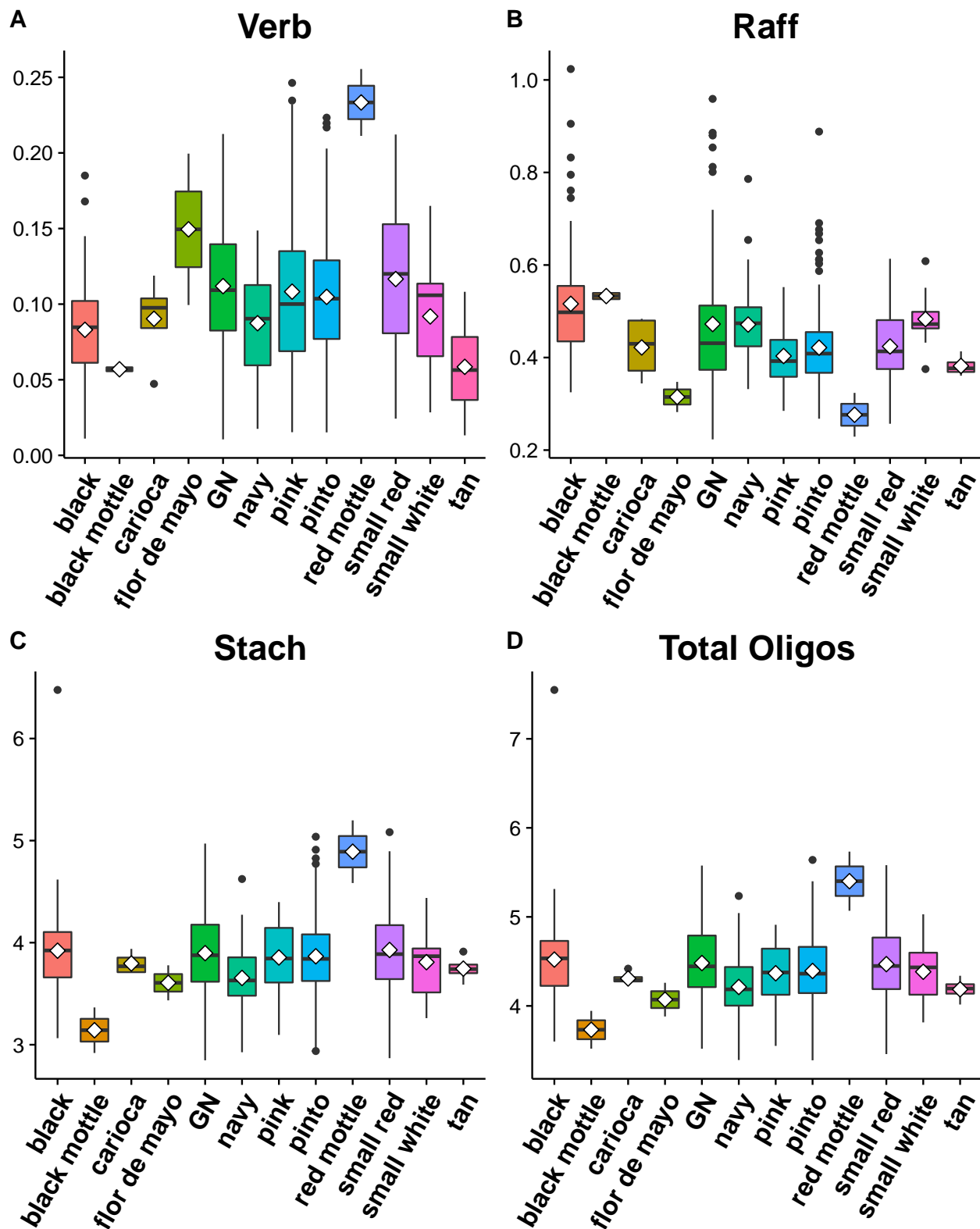
##	Entry	mktclass	race	TOligos	sd	se	ci
## 1:	ND021717	black	mesoamerican	5.98	2.22	1.57	19.916897
## 2:	Centa Pupil	small red	jalisco	5.45	0.18	0.13	1.617420
## 3:	Ind. Jamaica Red	red mottle	jalisco	5.40	0.47	0.33	4.220337
## 4:	GN Star	GN	durango	5.39	0.23	0.16	2.039479
## 5:	Inta Precoz	small red	jalisco	5.32	0.25	0.18	2.241217

##	Entry	mktclass	race	TOligos	sd	se	ci
## 1:	Mariah	pinto	durango	3.60	0.30	0.21	2.6710006
## 2:	NE1-09-19	GN	durango	3.57	0.08	0.06	0.7096436
## 3:	ND040494-4	pinto	durango	3.55	0.14	0.10	1.2448339
## 4:	T9905	navy mesoamerican		3.53	0.12	0.09	1.0809816
## 5:	F07-449-9-3	small red	jalisco	3.50	0.06	0.04	0.5674556

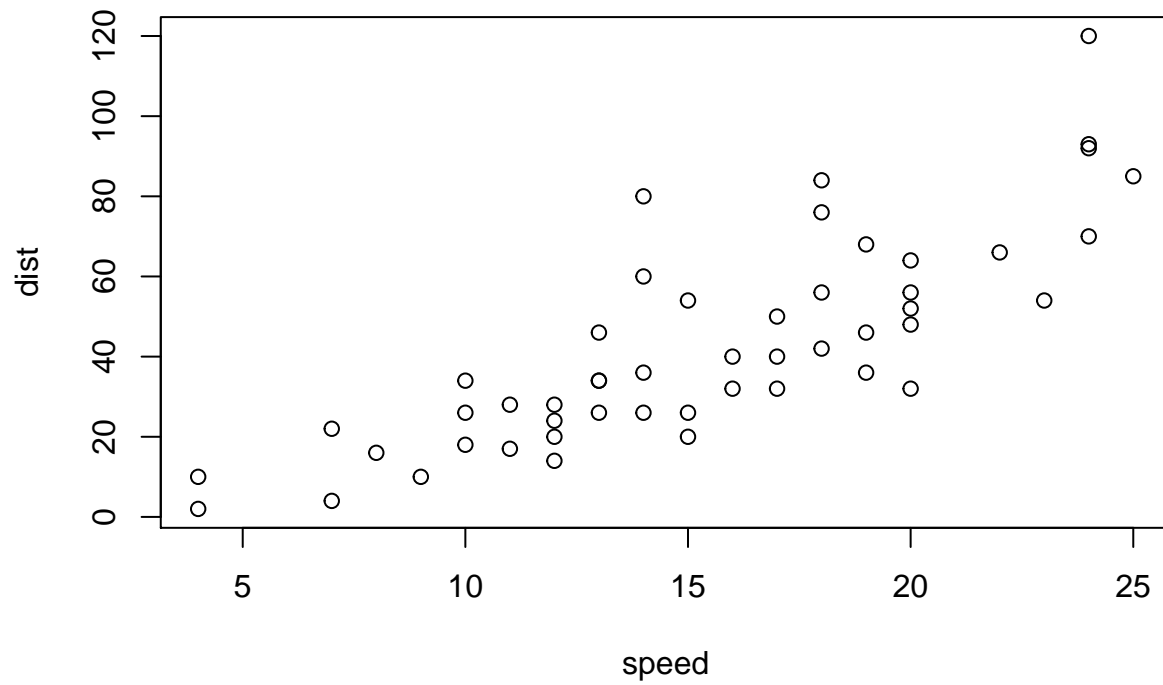
Total Dietary Fiber (TDF) = IDF + SDF + Raff + Stach + Verb

##	Entry	mktclass	race	TDF	sd	se	ci
## 1:	PR0443-151	black	mesoamerican	30.23	1.22	0.87	11.004492
## 2:	IP08-2	pinto	durango	30.06	0.15	0.11	1.392203
## 3:	NDO21717	black	mesoamerican	29.78	0.83	0.59	7.483545
## 4:	AC Resolute	GN	durango	29.45	1.57	1.11	14.079884
## 5:	Max	pinto	durango	28.59	0.81	0.57	7.258725

##	Entry	mktclass	race	TDF	sd	se	ci
## 1:	T9905	navy	mesoamerican	23.59	0.93	0.66	8.39305965
## 2:	Norstar	navy	mesoamerican	23.43	0.31	0.22	2.77432039
## 3:	BelMiNeb-RMR-7	navy	mesoamerican	23.36	0.12	0.08	1.05149600
## 4:	Topaz	pinto	durango	23.18	0.00	0.00	0.02031563
## 5:	AC Pintoba	pinto	durango	22.82	0.80	0.57	7.18983714



You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.