Feed resources in Norwegian salmon farming in 2016

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FIGARO
EXTRA VIRGIN
OLIVE OIL
delia
STEINIG

Feed resources:
Total use of feed ingredients for salmon feed in Norway in 2016 from
- BioMar
- Ewos (Cargill)
- Marine Harvest
- Skretting

Total production of salmon in 2016

Whole body analysis of salmon, see poster P.1.06 by Torbjørn Åsgård

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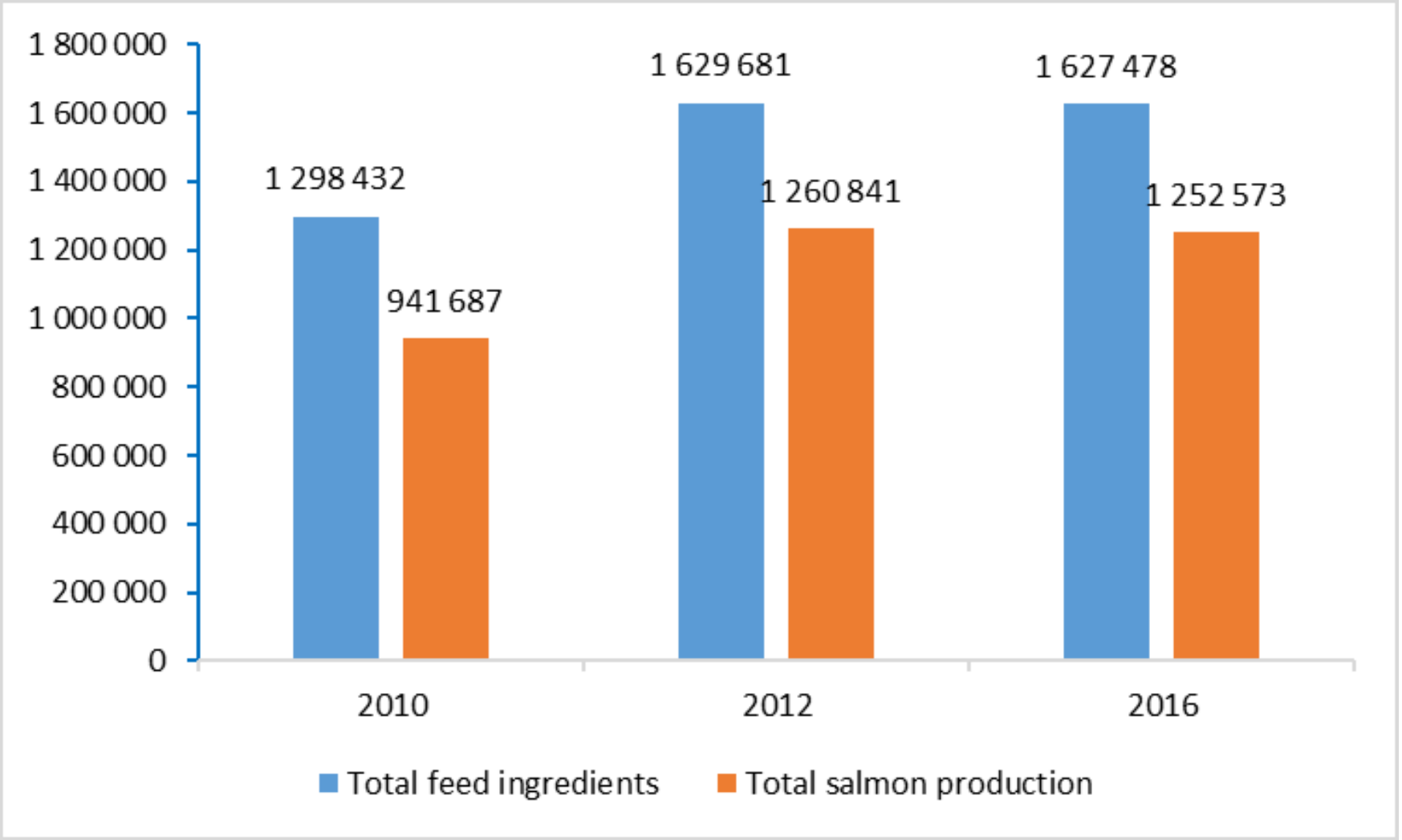
Total feed ingredients used and salmon produced (ton) in 2010, 2012 and 2016



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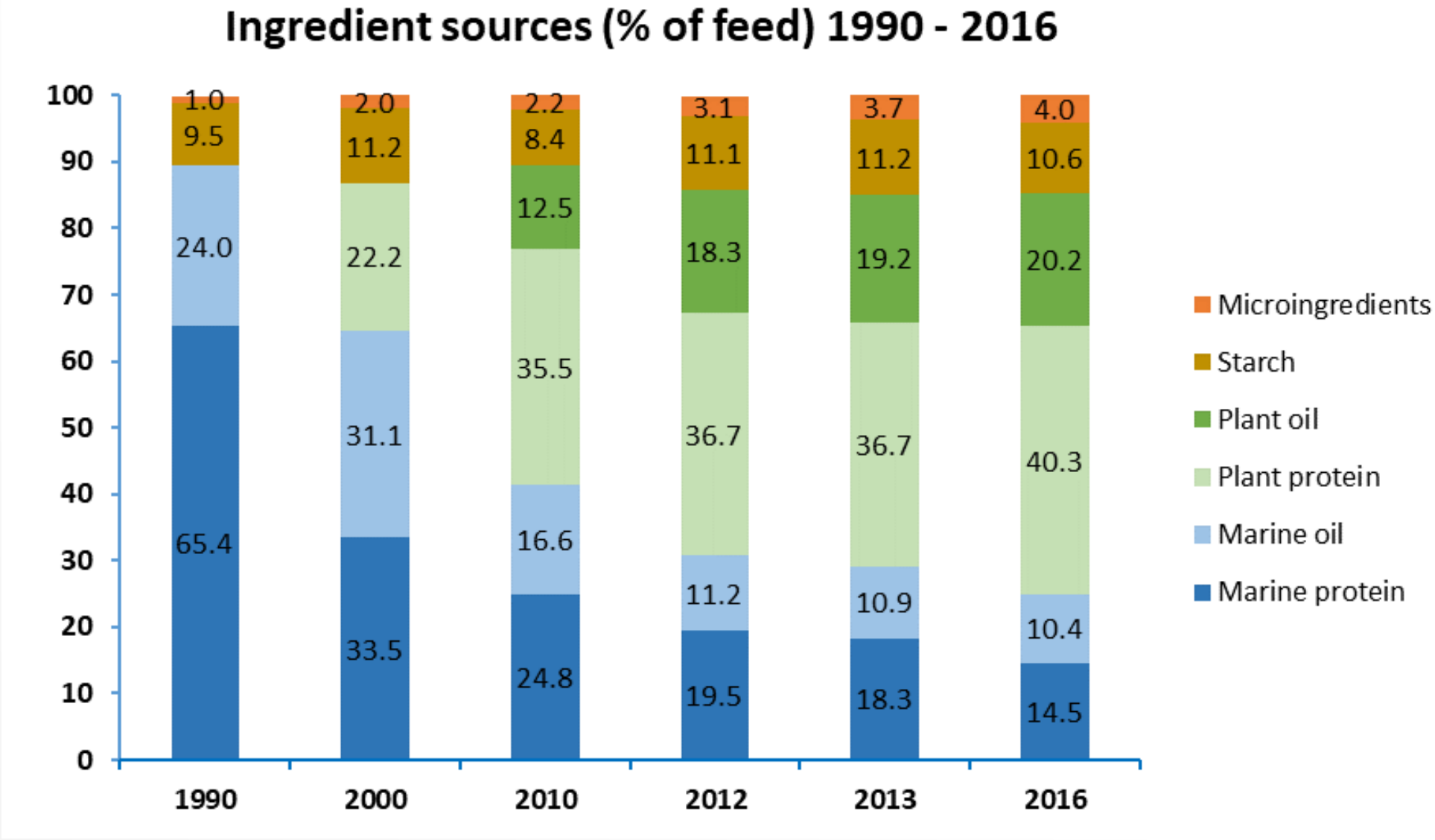
Feed conversion ratio, FCR

2016	Ton	FCR
Total salmon production:	1,252,573	
Ingredients used, ‘as is’	1,627,478	1.30
Ingredients used, dry matter	1,520,358	1.21
Traded feed	1,543,000	1.23

Ingredient sources (% of feed) 1990 - 2016



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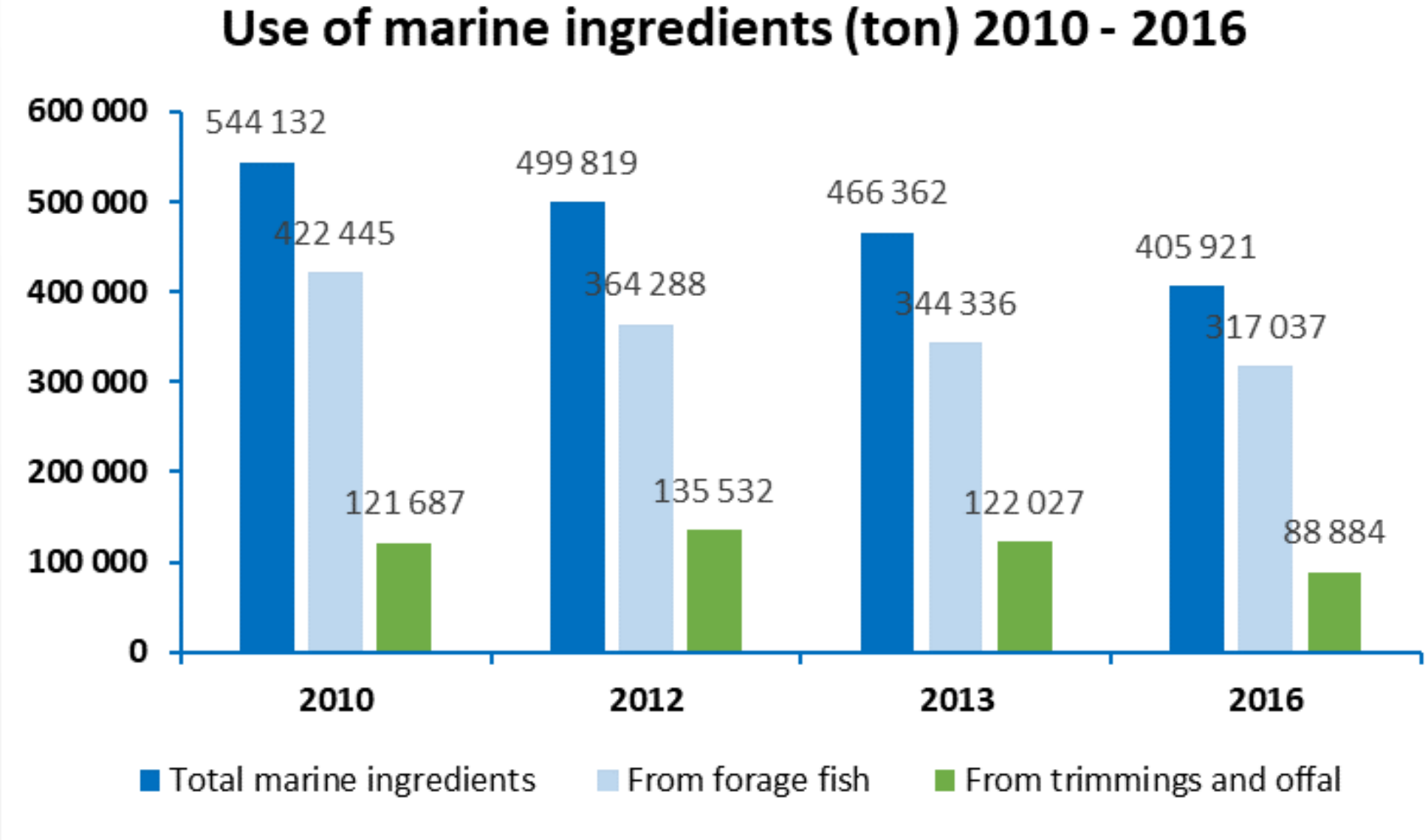
Use of marine ingredients (ton) 2010 - 2016



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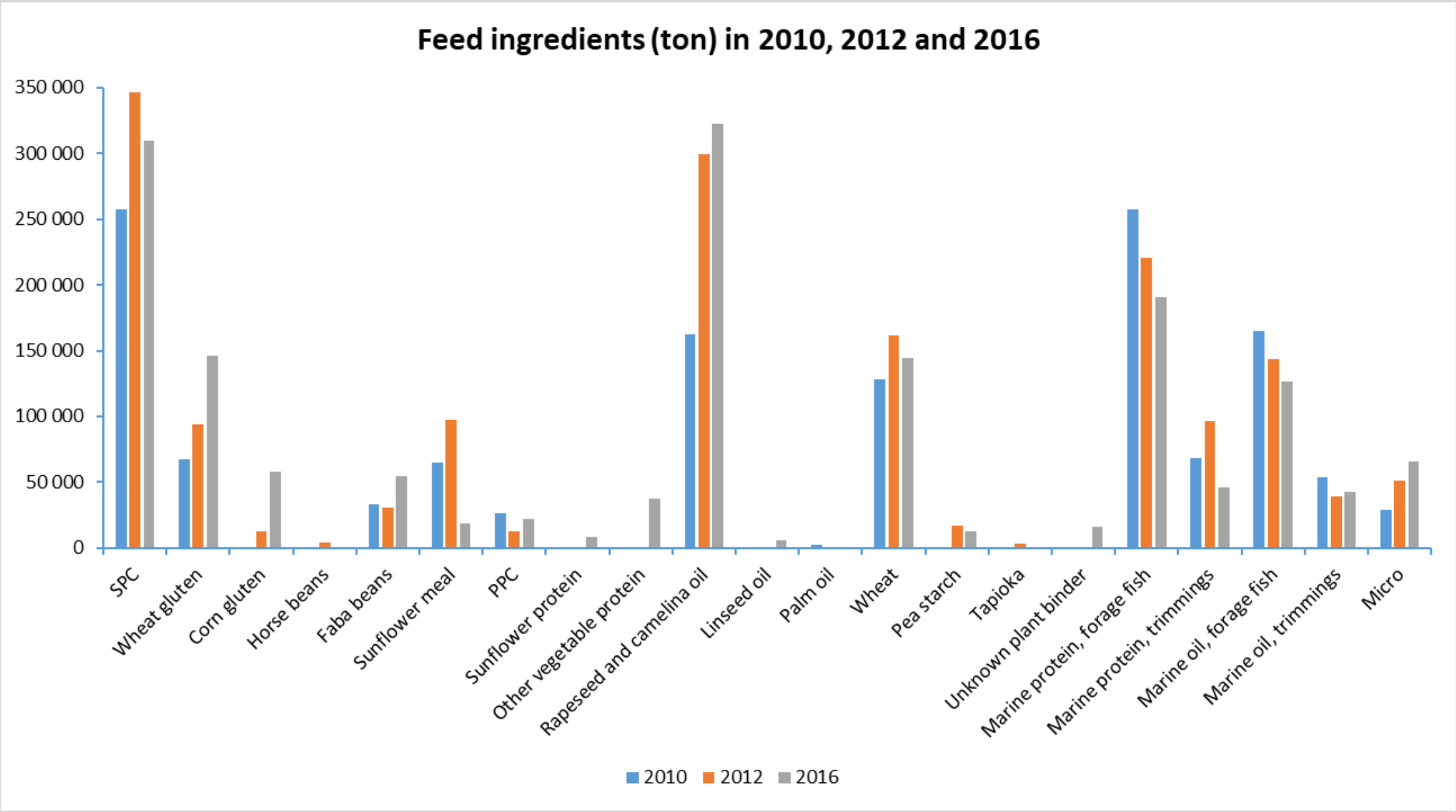
Feed ingredients (ton) in 2010, 2012 and 2016



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Average composition of Norwegian salmon feed in 2016

	Ingredient	%
Plant protein sources	SPC	19.0
	Wheat gluten	9.0
	Corn gluten	3.6
	Horse beans	0.0
	Faba beans	3.4
	Sunflower meal	1.1
	PPC	1.3
	Sunflower protein	0.5
	Other vegetable protein	2.3
Plant oils	Rapeseed and camelina oil	19.8
	Linseed oil	0.3
Starch sources	Wheat	8.9
	Pea starch	0.8
	Unknown plant binder	1.0
Marine protein sources	Marine protein, forage fish	11.7
	Marine protein, trimmings	2.8
Marine oils	Marine oil, forage fish	7.8
	Marine oil, trimmings	2.6
Micro ingredients	Micro	4.0

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Retention of nutrients and energy

	In feed, ton or GJ	Retention in whole body, %	Retention in fillet, %
Dry matter	1,520,358	34	18
Energy	38,566	41	16
Crude protein	579,936	37	28
Crude lipid	545,813	49	17
EPA+DHA	38,822	37	29
Phoshporus	21,007	18	10

Assumed fillet yield: 65%
Fillet composition from www.matvaretabellen.no

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Aknowledgement

The project was fundend by the Norwegian Seafood Research Fund (FHF)

Data on feed ingredients were provided by BioMar, Ewos, Marine Harvest and Skretting

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