

Pasta fortification: Impact of different iron sources on color

Background








- Fortified pasta can change their color depending on the iron source
- Industry asked for iron sources which have no influence on the appearance of pasta

Testing

- 6 different iron sources
- Dosage: 60 ppm iron (highest average value in flour fortification standards)
- Tested in spaghetti made from untreated hard wheat flour (12% protein) and water, produced by using pasta machine Sela type TR 75W
- Moisture content of dough: 32%
- Drying: 24h, 35°C, 60% r.H.
- Evaluation of cooked pasta compared with non-enriched pasta

Conclusion

- Ferric pyrophosphate, ferric orthophosphate and electrolytic iron did not show any impact on the appearance of pasta

	0	1	2	3	4	5	6
Iron source	Non-enriched	Ferric pyro-phosphate	Ferric ortho-phosphate	Electrolytic iron	Ferrous fumarate	Ferric sodium EDTA	Ferrous sulfate
Relative bio-availability (WHO)		21-74%	25-32%	50-75%	100%	>100%	100%
Appearance compared to non-enriched pasta		Com-parable	Com-parable	Com-parable	Brighter	Much brighter	Greyish
Pictures							

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