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Cereal components for the development of functional food

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Barley β-glucans are important for the development of cereal based functional food. Since we have demonstrated that barley β-glucan could lower the bread glycemic index (GI), we are now developing a system involving only two steps, micronization and air classification to obtain β–glucans enriched barley flours. This technology is simple and efficient in separating the finest fractions (containing mostly starch) from the β-glucan enriched fractions; these latter fractions can be mixed with refined wheat flours and used for bread and pasta production. We are also evaluating the possibility to use hulless waxy barley to produce high β-glucan flours and then bread with a low GI and also with good sensory properties. Other compounds which have a great interest for the development of functional foods are polyphenols. Cereal could be a good source of these compounds. We have characterised polyphenol and antioxidant capacity of pigmented rice genotypes which demonstrated to possess a very high antioxidant potential. Moreover we are also screening different pigmented cereal species for their antioxidant properties.