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Triticale (*Triticosecale wittmack*) lines identification to malt use with physiochemical analysis

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Barley malt has traditionally been the grain of choice in the brewing industry. However, it is not always economically viable to brew with 100% malted barley. The physicochemical properties of different lines of triticale (*Triticosecale wittmack*), were investigated for use as brewing malts. Were analyzed ten triticale lines proportionate by CIMMYT? The analyses were moisture, protein, ash, fat, fiber and carbohydrates content, germination rate and RVA. The average of dry material was 88%, moisture content 11%, FDN 19%, carbohydrates 39%, protein 13% and ash 1%, the results are similar to previous studies. RVA showed that high viscosity of the triticale kernel were between 33-104 cPs, this is lower than barley. The lines showed a good germination rate of 80 to 95% similar to barley. Just three lines of triticale could be considered for malt use ($\leq 13\%$ protein content), because one of the most important parameters to brew is the protein content, not more than 12.5%. On germination test some lines showed fungal growth, therefore were developed a treatments to stop this problem with chlorinated water at 3 and 6%, iodine solution at 5% and sodium bisulfite solution at 8%, those solution were used to steeping. The best result was grain immersion for ten minutes in chlorinated water at 6% and after use sodium bisulfite solution as steeping water.

Biography

Patricia Lopez-Perea has completed her PhD in Food Science at the age of 28 years from University of Queretaro State in México and postdoctoral studies from University of Manitoba working with Canadian Grain Commission in enzyme activity and sugars content in wort. She is Professor-Researcher of Universidad Autonoma del Estado de Mexico at Agronomy Faculty. Her research is focus in cereals, more on malt and brewing process and nutraceutical beverage. She is member of a National Research System in her country.

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