



### **Investigation on fungal contamination of main raisin varieties produced in Khorasan Province**

Masoomeh Mehraban Sangatash<sup>1</sup>, Yasin Nozary aval<sup>2</sup>, Zohreh Mahmoodi<sup>3</sup>, Reihaneh Noorbakhsh<sup>1</sup>, Hashem poorazarang<sup>3</sup>,  
Mohammad Mohsenzadeh<sup>4</sup>, Mohammad Armin<sup>3</sup>

*1Food Quality and Safety Research Group, ACECR Mashhad Branch, 2Food Processing Research Group, ACECR Mashhad Branch, 3Food Science and Technology Department, Islamic Azad University, Sabzevar Branch, 4Food hygiene and technology Department, Ferdowsi University of Mashhad*

Corresponding author's email: mmehrabans@yahoo.com

#### **Objective:**

Raisin is favorite food since 1490 BC beholden to nutritional value and high micronutrients content. According to FAO statistics, Iran is one of the major exporters of raisin in recent years. The grape is usually dried under sunshine in the open space and quality depends on weather conditions and ensuring an even drying of the grapes. Drying can be slowed down leading to colonization by *Aspergillus*, especially the ochratoxigenic species. The objective of this study was to investigate the population of fungi among raisin varieties in Khorasan Province.

#### **Method & Materials:**

62 Samples (Golden, Green, Teifi and Poloei raisins) were purchased from markets in Kashmar, Khalil abad, Bardaskan, Ghuchan and Shirvan. Ten grams of each sample was homogenized with 90 mL of normal saline. From resultant homogenate a series of dilutions at 10<sup>-2</sup>, 10<sup>-3</sup>, 10<sup>-4</sup> and 10<sup>-5</sup> were prepared. Every dilution was spread plated into YGC agar medium according to the "Pour Plate Method". After incubation at 25 °C for 3-4 days, colonies in each plate were counted with the colony counter and multiplied by the dilution factor to determine the cfu/g.

#### **Results & Conclusion:**

It was observed that 87 percent of tested raisin samples were contaminated with fungi. *Aspergillus* was the most frequently isolated genus and *Penicillium* was the second most common isolation. Total counts of fungi in Teifi, Green, Golden and Poloei raisin samples were 138, 423, 60 and 213 cfu/g, respectively. Green raisin samples had highest (423 cfu/g) and Golden raisin samples had lowest level (60 cfu/g) fungi count. The data also showed that the lowest fungal contamination of raisins was found in raisin samples of Khalil abad and Ghuchan.

**Keywords:** Iranian raisins, aspergillus, penicillium, major exporters

### **Determining total sulfur dioxide residue in main raisin varieties produced in Khorasan Province**

Zohreh Mahmoodi<sup>1</sup>, Yasin Nozary aval<sup>2</sup>, Masoomeh Mehraban Sangatash<sup>3</sup>, Reihaneh Noorbakhsh<sup>2</sup>, Hashem Poorazarang<sup>1</sup>,  
Mohammad Mohsenzadeh<sup>4</sup>, Mohammad Armin<sup>1</sup>

*1Food Science and Technology Department, Islamic Azad University, Sabzevar Branch, 2Food Processing Research Department, ACECR Mashhad Branch, 3Food Quality and Safety Research Department, ACECR Mashhad Branch, 4Food hygiene and technology Department, Ferdowsi University of Mashhad*

Corresponding author's email: zohremahmoodi@yahoo.com

#### **Objective:**

Raisin is very important exporting product. The unauthorized amount of SO<sub>2</sub>-residue, with harmful effect on flavor and consumer health is a main problem of its export. Iran is third main producer of raisin by production of 140000 MT and the third exporter of raisin by 92000 Mt (7 percent of the world consumption) ranking after Turkey and USA. We tried to determine the amount of SO<sub>2</sub>-residue in some important varieties of raisin in Khorasan province.

#### **Method & Materials:**

Samples were collected in a random clustered manner from five different wholesalers in several cities of Khorasan province. Teifi, green and golden samples were collected from southern Khorasan (Kashmar, Bardaskan and Khalilabad) and poloei samples were collected from northern Khorasan (Ghochan, Shirvan). Sulfite-residue was determined according to Iran national standards (Standard number 569).

#### **Results & Conclusion:**

According to the results, the average amounts of sulfite-residue of Teifi samples of Kashmar, Bardaskan and khalilabad were 932, 1884 and 2230 ppm respectively. The results for green samples for the same cities were 1175.6, 1008.8 and 658 ppm, and for golden ones were 1226, 2076 and 2484 ppm respectively. In Ghochan and Shirvan, the average amounts of sulfite residue of poloei samples were 186 and 1070 ppm respectively. Among different raisins' samples collected from Kashmar, Bardaskan and Khalilabad, the golden ones had the highest amount of sulfite-residue. Moreover, the amount of sulfite-residue in Shirvan's poloei samples was higher than Ghochan's samples.

**Keywords:** Human health, golden raisins, green raisins, Teifi raisins, Poloei raisins

# 1st International Congress of Food Hygiene

April 25 - 26 , 2009 Tehran-Iran

Organizer



سازمان نظام دامپزشکی جمهوری اسلامی ایران  
Veterinary Council I.R. IRAN



Congress Proceedings

[www.icfh2009.com](http://www.icfh2009.com)