بسمه تعالی

**فرم چکیده سخنرانی ژورنال کلاب دانشجویان کارشناسی ارشد ورودی**

دانشکده بهداشت – گروه مهندسی بهداشت محیط

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| **عنوان مقاله :**  **A review on the characteristics, regulations, detection strategies and safety of genetically modified organisms** |
| **چکیده:**  The World Health Organization (WHO) defined GMOs as those organisms in which the genetic material has been altered in a way that does not occur naturally. The area of agricultural land cultivated with genetically modified (GM) crops has expanded exponentially since their introduction in 1996. Only 20 years later, in 2016, a total area of 185.1 million hectares worldwide was cultivated with GM crops. The most commonly grown GM plant are maize, soybean, cotton, and canola. In 2015, the most of these crops were grown in the United States, Brazil, Argentina, India and Canada. The labeling of GM crops and their products are mandatory if the GMO content exceeds the levels of a recommended threshold. commonly used detection methods for GM crops is based on PCR. glyphosate-tolerant GM crops are designed for use with glyphosate herbicide. Furthermore, the World Health Organization’s International Agency for Research on Cancer recently concluded that glyphosate is “probably carcinogenic to humans. Also, the results of meta-analysis support the hypothesis that glyphosate exposure decreased sperm concentration in rodents. Therefore, we conclude that glyphosate is toxic to male rodent’s reproductive system. Most of the studies conducted lasted for up to 90 days and recorded pathological, hematological, histopathological, serum chemistry, macroscopic, food intake, and reproduction-related characteristics. Although the reports do not indicate direct risks to human and animal health, when the details of all the reports are considered, certain effects were observed, such as statistically significant differences in clinical performance of SD rats in response to consumption of high amylose and resistant GM-rice concluded that biochemical and hematological blood parameters were comparable when SD rats were fed with Bt transgenic rice (expressing cry1Ab). |