كلية الزراعة
قسم الإنتاج الحيواني

جامعة الفيوم

البحث الثالث

Gamal Eldin Aboul-Fotouh, Abdelkader M. Kholif, **Abdelalim M. Abd El-Mola** and Ola G.A. Hassan **(2020).** ***In vitro*** **Rumen-fermentation and Gas Production of Pomegranate Peel with or Without Polyethylene Glycol**. ***J. Biol. Sci., 20 (2):73-79***	**البحث الثالث**
مشترك مع آخرين داخل وخارج التخصص – منشور.	**3**
مستخلص من رسالة	

Title	***In vitro*** **Rumen-fermentation and Gas Production of Pomegranate Peel with or Without Polyethylene Glycol.**
Participants	[1]Gamal Eldin Aboul-Fotouh, [2]Abdelkader M. Kholif, [1]Abdelalim M. Abd El-Mola and [1]Ola G.A. Hassan [1]*Department of Animal Production, Faculty of Agriculture, Fayoum University, Fayoum, Egypt.* [2]*Department of Dairy Sciences, National Research Centre, 33 Buhouth Street, Dokki, Giza, Egypt.*
Journal	***J. Biol. Sci., 20 (2):73-79***

ABSTRACT

Background and Objective: Rising production of pomegranate juice causes to the gathering a novel by-product, i.e., pomegranate peel, which have attracted attention for their obvious wound-recovering characteristics. This paper aimed to evaluate the best percentage (%) addition of pomegranate peel (PP), detanninated pomegranate peel (DPP) and pomegranate peel with polyethylene glycol) (PP+PEG) on in vitro characteristics. **Materials and Methods**: The treatments were control has a total mixed ration consisted of concentrates feed mixture, Egyptian clover and wheat straw (2:1:1), from Ration 1 (R1) to R5 have control+PP, R6-R10 have control+DPP 1, 2, 3, 4 and 5% DPP, respectively, finally R11-R15 have control+PP with 20 g PEG. The experimental rations were incubated in vitro with rumen liquor for 24 h and the amount of the production of gas has been measured. **Results**: The findings demonstrated that the dry matter digestibility in R11, R12, R13 and R6 were the highest insignificant. The gas production volume values were highly significant of R11, R12, R13, R14 and R15, the polyethylene glycol (PEG) supplementation demonstrated the highest significant impact on organic matter digestibility (OMD), short-chain fatty acids (SCFA), metabolisable energy (ME) and net energy for lactation (NEL) between the experimental rations. Addition the PEG for both 1, 2 and 3% pomegranate peel and utilized 1% detanninated pomegranate peel raised dry matter digestibility (DMD), OMD and could utilize them as ruminants feed supplement full of a valuable nutritional element at an awfully low expense. Conclusion: Pomegranate peel+polyethylene glycol (PEG) and detanninated pomegranate peel have a possibility relative nutritive value in farm animals under the condition of in vitro studies