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ABSTRACTS BOOK

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Prof. Dr Sakir TASDEMIR

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**5th International Conference, ICENTE
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Abstracts

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Sakir TASDEMIR**

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SOUR CHERRY KERNEL REINFORCED BIOCOMPOSITE FILMS AND INVESTIGATION OF SOME PROPERTIES*ULKU SOYDAL¹, MURAT YILDIRIM², MUHAMMED MELIH BUL³, GULNARE AHMETLI⁴*¹ Selcuk University, Turkey;² Selcuk University, Turkey;³ Selcuk University, Turkey;⁴ Konya Technical University, Turkey**ABSTRACT**

Most of the polymers and polymer composites produced in the industrial field are of petroleum origin. The fact that these depleting petroleum-based resources are both expensive and bring environmental problems such as climate change and waste problems lead scientists to search for cheaper and renewable resources instead of petroleum-based resources. Therefore, in recent years, many research groups have been working on the synthesis of bio-based polymeric composites from different renewable resources such as oil-based resources [1][2]. On the other hand, evaluating waste and by-products in the food industry is an increasingly important issue today. The reason for this is that a large amount of solid and liquid waste materials are formed during the production, processing and consumption stages of foods. Especially since the wastes of the fruit and vegetable industry contain a high amount of water, microbial deteriorations that occur when they are thrown into the nature or toxic substances that occur during their disposal create environmental pollution[3]. For this purpose, in this study, sour cherry kernel (SCK), which is generated as waste from the fruit juice industry, was used as a filler for the preparation of composite film materials in biobased acrylated epoxidized soybean oil (AESO) resin matrix. Composite films were formed by adding different ratios of sour cherry kernel powder (0%, 10%, 20%, 30%, 40%, 50% by weight). and, the antibacterial, pH, swelling-solubility-water content and mechanical properties of the film composites were investigated. It was observed that the obtained SCK/AESO composite films were antibacterially effective against Gram-positive *Staphylococcus aureus* and *Enterococcus faecalis*) and Gram-negative (*Escherichia coli* and *Klebsiella pneumoniae*) bacterias.

KEYWORDS - Sour Cherry Kernel, Antibacterial activity, UV curing, biobased resin, biocomposite film