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Degumming of *Nigella sativa* oil by phosphoric acid

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Removal of phosphatide which causes turbidity in fats, lipids with sugars and proteins, colloidally sized pulps from raw oil with hydrolysis are called degumming (removal of sticky substances). In today's edible oil industry, degumming is done with a concentrated phosphoric acid solution. *Nigella sativa* and its oil have been used in millions of people "to support health" for centuries in Africa, Asia, the Middle East, America and Europe. *Nigella sativa* (black cumin) is a plant of the family Ranunculaceae. Thymoquinone (TQ), an important component of the *Nigella Sativa* oil, is known as a traditional healing resource due to its potential medical properties. As a result of scientific researchers; vitamins, active ingredients, and essential fatty acids, found in the Nigella Sativa, are the leading products that are recommended to be consumed by scientists. At the same time, clinical findings and scientific evidence of its effectiveness have attracted the attention of modern medicine of the *Nigella Sativa* has been preferred for therapeutic purposes. At the same time, the efficiency has been scientifically proven, *Nigella Sativa* has attracted the attention of modern medicine and has been preferred for therapeutic purposes. In this study, degumming of the cold pressed *Nigella Sativa* oil was carried out using phosphoric acid solutions. Process parameters including, temperature, water, and H3PO4 amounts, stirring speed and stirring time were examined. Optimum conditions for degumming were determined using the Taguchi Fractional Design Method as follows: Water amounts 5% w/v, Phosphoric acid 0.50% w/v, Temperature 65^0C, stirring time 40 min and Stirring speed 600 min-1.

Biography

Yuksel Abali completed his Graduation from Selcuk University, Department of Chemical Engineering in 1986 and; Doctorate from Ataturk University in the field of Chemical Technology in 1994. He has been working as a Professor in Department of Chemistry at Manisa Celal Bayar University. He has expertise in the area of Boron Compound Production, Hydrometallurgy, Biodiesel and Vegetable Oils.

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