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## The study of fatty acid composition of cyanobacteria strains - biodiesel producers

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In search for renewable and alternative fossil fuels, there is a growing interest in the use of certain cyanobacteria species as raw materials for biodiesel. The cyanobacteria can be a suitable alternative source due to their rich fatty acid (FA) composition.

Because of important criterion for the selection of biodiesel producer is a stable and high synthesis of FA, we analyzed the FA composition of *Anabaena variabilis* R-I-5 strain isolated from Afghanistan and *Cyanobacterium* sp. IPPAS B-1200, *Cyanobacterium aponium* IPPAS B-1201 collection cultures. During research was established that accumulation of FA by B-1201 strain was 45.8 mg per 1 g of dry weight, mainly C16:0 (23.4%) and unsaturated FA – 72.8%. However, in the cells of R-I-5 strain predominantly C16:0 (44.9%) and monoenic FA – 8.2%, the FA accumulation was 43.2 mg per 1 g of dry weight. The cells of B-1200 strain were characterized by C14:0 – 30% and C16:1 $\Delta$ 9 – 39.3% FA, the accumulation was 59.9 mg per 1 g of dry weight.

As a result, we revealed that the collection strains: *Cyanobacterium* sp. IPPAS B-1200 and *Cyanobacterium aponium* IPPAS B-1201 characterized by the highest productivity on FA accumulation that allows them to be a source of biodiesel.

**Keywords:** cyanobacteria, fatty acids, biodiesel

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### Confidential to Author and Editor

<b>Note to Editor</b>	: The use of cyanobacteria can be a suitable alternative source because they are the most efficient biological producers of fatty acids on the planet and universal renewable source of biomass. According to the forecasts of these organisms can soon become one of the most important renewable fuel crops on Earth.
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