Extreme daily productivity values of microalgae culturing system with different orientation of the illuminated surface and under natural light were assessed. Calculations are made for natural light conditions around neighborhoods of Isfahan City (Iran). It is shown that if the efficiency factor of photosynthesis equals to 5%, limit values of productivity will be 38 grams of dry biomass per 1 m² of illuminated surface and 114 grams will be at efficiency of 15%. On basis of simple model understandings regarding the daily distribution of solar radiation, which arrives at the surface of the Earth, productivity of microalgae culturing system for its various orientations relative to the Sun at different photosynthetic efficiency was calculated during the summer half-year (from March 21 to September 21). It is shown that the limit (optimal) value of the yield at the efficiency of 15% will be about 18.5 kg of dry biomass per square meter of illuminated surface.

The results can be used to develop technologies for the production of industrially important compounds from microalgae.

**Key words:** microalgae, limit assessment of productivity of microalgae system, photobiosynthesis, total solar radiation.

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