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ABSTRACT

Ultraviolet light exposure creates free radicals in skin causing skin problems. To overcome this, sunscreens containing synthetic chemical substances can absorb ultraviolet rays and ward off free radicals that are formed, but the downside of sunscreen creams and lotions is that they are sticky and need to be adjusted to human skin type. Essential oil from *Cymbopogon nardus* L. containing citronellal, geraniol, and other flavonoid compounds which have sunscreen and antioxidant activity can be developed into a sunscreen preparation, namely spray sunscreen which is non-sticky and suitable for all skin types. The objective of this study was to obtain a sunscreen spray formula containing citronella essential oil that meets all physical preparation test requirements and has the highest SPF value. The research design is laboratory experimental study with citronella essential oil formulated in four variations of sunscreen spray formula (F0, F1, F2, F3) with concentrations of 0%, 5%, 7.5%, and 10%. The research methods are essential oil extraction by steam-water distillation, phytochemical screening, formulation, physical evaluation (organoleptic, pH, homogeneity, and viscosity testing), dan SPF activity test using spectrophotometer UV-Vis. All formulas exhibited acceptable physical characteristics with a constant pH of 7, homogeneous, and varying viscosity. The highest SPF values was F3 (12.13±0.00) with low protection. These results indicate that citronella essential oil can be incorporated into a sunscreen spray formulation that meets physical quality requirements and provides UV protection with the highest SPF value owned by F3.

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