Abstract

Mexican marigold (Tagetes minuta L.) and its accruing products have a long worldwide history of human uses such as food, therapeutics and aromatherapy which are inherent in the plant's unique chemical composition and bioactivities. In the recent past, T. minuta essential oils (EOs) have received great attention in research, and their phytochemistry, bioactivities and uses remain the focus of considerable scientific studies. The interest in EOs is largely due to increased demand by consumers for natural-based products such as additives, drugs and pesticides, whose global acceptability and safety is highly regarded compared to synthetic products. The purpose of this review is to document the existing value addition and evidence-based multipurpose potential and considerations of T. minuta as a new generation crop as provided for by in-depth scientific studies of its EOs. Among the bioactivities and therapeutic properties attributed to T. minuta EOs include: antihelminthic, carminative, arthropod repellency, sedative, weedicidal, antiseptic, diaphoretic, spasmolytic, germicides, stomachic, antispasmodic, antiprotozoal, bactericidal, emmenagogue, nematicidal, insecticidal, fungicidal, antiviral and other microbicidal properties against a wide range of plant, human and animal pathogens, pests and parasites. Oil of T. minuta is therefore a potentially useful agent for protecting food crops on farm and in storage and livestock, thereby enhancing food security and improving human livelihoods. Nevertheless, increased value addition and the need for validation of traditionally claimed usages and applications of T. minuta EOs through in-depth scientific studies should be prioritized to globally position this plant as a new generation crop