

## Reviewer Report

**Article title: Identification, validation and quantification of thymoquinone in conjunction with assessment of bioactive possessions and GC-MS profiling of pharmaceutically valuable crop *Nigella* (*Nigella sativa* L.) varieties”**

### **Abstract:**

**Comment 1:** The introduction to the abstract is extremely extensive, and it should place more emphasis on the findings and conclusions. For readers to comprehend the procedures and results, the abstract should be self-contained. It is necessary to rewrite the abstract and include the samples

### **Introduction:**

The selection of the topic and title of the manuscript are appropriate and significant concerning the current scenario with special reference to the importance of medicinal plants for human health care and well-being.

**Comment 1.** Solvent extraction is the modern method of extraction that has a low selectivity and superior methods compared to other methods. Here, the authors need to highlight the other methods of extraction and their drawbacks compared to solvent extraction.

**Comment 2.** The authors have done GC-MS profiling of the elected varieties but no information has been compiled related to GC-MS. Hence, introductory information needs to be added for a better understanding of the results.

**Comment 3.** Authors need to highlight the objectives of the study clearly so the readers can benefit and plan further advanced studies in the said area.

**Comment 4.** Provide a multi-panel figure for *Nigella sativa* L., varieties.

**Comment 5.** Grammatical typo in the whole manuscript must be corrected.

### **Material and Methods:**

In material and methods, the planning, design and conduct of the experiment are appropriate and in accordance with the objectives of the study. The authors need to address the following comments;

**Comment 1.** Provide the source of the manufacturing company or from where the standards and chemicals were purchased to conduct the experiment.

**Comment 2.** Zhang, Bi & Liu, 2007 the cited reference is appropriate. Correct it.

**Comment 3.** 415nm spectrophotometer. Is it wavelength or spectrophotometer? Check it again and rectify it.

**Comment 4.** DPPH radical scavenging activity test:

DPPH is a photosensitive agent do the authors keep the reaction mixture under dark conditions? If so, kindly mention it in the material and methods section.

**Comment 5.** Cite reference for HPLC and GC-MS profiling published in previous issues from PeerJ journal.

**Comment 6.** Figures and tables formatting should be improved

### **Results and Discussion:**

The results are aptly tabulated and expressed and the units of measurement are properly cited. The discussion is appropriate and supported by the research work done by the previous workers in the similar line in different crops are appreciable.

**Comment 1.** The discussion on bioactive possessions of results needs to be supported with the latest available references. Put forward to Cite a few of the results published in PeerJ journal.

### **Conclusion:**

The salient findings of the study are summarized appropriately as per the experimental results.

The research manuscript is recommended for acceptance with incorporation of typographical errors and comments suggested in different sections must be done accordingly. The findings may be published for better visibility and dissemination of the generated results.