

RESEARCH ON OCIMUM BASILICUM AND PLANTAGO OVATA FOR POSSIBLE ENRICHMENT OF FUNCTIONAL FOOD AND FOOD PRODUCTS

ABSTRACT

Medicinal plants and food crops, since long ago have been utilized as a source of energy and medicine in different cultures and regions of the world. There are numerous plants on the earth known for medicinal importance, among these plants genus *Ocimum* is considered as the most significant for their therapeutic potentials. *Ocimum basilicum* commonly known as sweet basil is popular herb for its medicinal values often referred to as King of herbs being widely utilized on large scale due to its nutritional and medicinal properties. It is high value economical and industrial crop and has applications as food additives, flavoring and for fragrance in cosmetic industry. The second focused plant of our research is *Plantago ovata* L. generally named as psyllium and locally known as Isabgol belonging to the family Plantaginaceae. It is herbaceous, stem less medicinal herb. Because of its utilization as health care purposes for many centuries in South Asia, and now different parts of the plant are widely consumed for its medicinal properties all over the world. Psyllium husk obtained from membranous covering of the seed traditionally prescribed for gastrointestinal problems. It is given as a safe laxative and particularly considered as beneficial in habitual constipation, dysentery and chronic diarrhea when consumed with various modes of formulation.

As we already know herbs, nutrients and dietary supplement are major contributors of functional food which help to enhance the structure and function of the body. Therefore, in this work we focused to find non conventional source of nutrients by screening and comparative assessment for possible enrichment of functional food to tackle health related problems of daily life. So we evaluated our work with respect to nutritional analysis of seeds of selected medicinal plants, consumer's response about utilization of selected medicinal plants and fibrous food products preparation on the basis of indigenous knowledge. The values of moisture contents for psyllium seeds from Romania and psyllium seeds from Pakistan found as 7.8% and 7.7% whereas percentage of moisture contents for sweet basil seeds from Romania and sweet basil seeds from Pakistan found as 9.7% and 7.0% respectively by using thermo moisture analyzer. The data indicated that seeds of psyllium from Romania contained low ash content (2.001%) as

compared to the seeds of psyllium from Pakistan (2.41%). Whereas ash contents in the seeds of sweet basil showed the highest values (7.26 %) as compared to seeds of sweet basil from Pakistan (2.34%). On the other hand, mineral matter (ash content %) determination by sample weight difference, we found the same results as sweet basil contained the high amount of mineral (6.5 %) as compared to psyllium seeds (3.4 %).

From the findings of this study we observed that psyllium seeds from Romania contained reasonable amount of fiber content (10.47 %) as compared to psyllium seeds from Pakistan (9.35 %) whereas sweet basil seeds from Romania contained lowest amount of fiber content (5.88 %) as compared to other ecotype seeds of sweet basil from Pakistan (6.43 %). From the other method of fiber estimation, we obtained different results for both seeds of selected medicinal plants but the findings were the same as psyllium seeds contained highest crude fiber (3.2 %) as compared to seeds of sweet basil (2.1%) as in a percentage quantity (%). The results showed that sweet basil seeds contained high protein contents (29%) as compared to psyllium seeds (24.5%). These findings suggested that sweet basil seeds with rich source of protein contents might be valuable as nutritional perspectives as compared to seeds of psyllium. Based on the observations of current study for estimation of fats contents (Lipids), sweet basil seeds contained low fat contents (15.36%) in comparison with psyllium seeds (16.55%) but there was not great difference in the values of fat contents in both selected seeds of sweet basil and psyllium. From the findings of current study suggested that the seeds of psyllium have the good amount of carbohydrates (47.19%) as compared to seeds of sweet basil (42.5%).

We concluded from these observations, psyllium seeds had highest energy values might be due high percentage of fibers, fats and carbohydrates as compared to sweet basil seeds (424.24 kcal) that had only protein contents in higher quantity in comparison with psyllium seeds (435.71k cal). Finally, according to the findings of surveyed analysis we concluded that people consumed these plants only based on traditional knowledge and reluctant to used them more frequently. Most of the surveyed people used psyllium as a source of fibers to cure the digestive problems whereas sweet basil seeds used by the people only for seasonal recreational purposes without knowing its specific worth of efficacy. On the other hand, majority of respondent preferred to use whole grains as compared to refined grains. From these results we found clear idea for novel food product preparations in according to the needs of consumers. Furthermore, bread preparation with psyllium addition and refreshing drink with utilization of sweet basil

seeds were our final findings of current study. From the findings of present study we concluded that bread with 3% psyllium husk has more characteristic properties as compared to less amount of psyllium addition 1%. On the other hand drink with 5% basil seeds has acquired thick mucilage as source of fiber.