



SUMMARY

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- ❖ The present study was focused on the effect of Panchakavya on the growth and yield of various crops.
- ❖ Four crops namely ragi (*Eleusine coracana*), green gram (*Vigna radiata*), rice (*Oryza sativa*) and roselle (*Hibiscus sabdariffa*) were cultivated. Six different treatments namely panchakavya, panchakavya + animal waste, panchakavya + plants, panchakavya + neem cake, vermicompost were compared with chemical fertilizer and control.
- ❖ Percentage seed germination and seedling vigour index were higher in panchakavya treatment when compared to control and chemical fertilizer.
- ❖ Of the treatments panchakavya + animal waste exhibited the maximum yield in all the four crops.
- ❖ Infection with pests, fungi and other microbes was reduced in panchakavya treatment when compared to control and chemical fertilizer.
- ❖ The fertility of soil increased in panchakavya treatments when compared to control and chemical fertilizer. Macronutrient and micronutrient content of the soil was found to increase. The water holding capacity of the soil increased.
- ❖ The IAA in panchakavya was quantified. The lipase activity of the samples were observed and recorded.

- ❖ Panchakavya enhances cell division and cell growth at 1% concentration and was studied on onion root tips.
- ❖ Qualitative phytochemical analysis shows the presence of bioactive compounds in the sample.
- ❖ The microbial load of Panchakavya was high and rich microbial flora enhances soil fertility.
- ❖ Natural products mostly contain more number of chemical substances. In the present study panchakavya has been analyzed in different biochemical constituents by using different methods of HPTLC and GC–MS.
- ❖ The bacterial colonies were identified based on growth characteristics and biochemical characters.
- ❖ Antimicrobial activity of the panchakavya extract against bacteria and fungi showed good results.
- ❖ Antifungal activity of panchakavya against plant pathogenic fungi was studied by dual culture technique.
- ❖ The panchakavya has an inhibitory effect on the spore germination of the plant pathogenic fungi *Pyricularia oryzae*.