Conclusion
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Controlled fermentation by oven method with different combinations of inoculum yield a marginal increase in the vanillin content. Hence microbial contribution in the vanillin formation cannot be ignored, provided a favorable condition for microorganisms growth and proliferation it may enhance the vanillin content. However there exists several challenges in the traditional sundrying such as high temperature, high phenolics...etc may play a negative role for the growth and proliferation of microorganisms, which restricts normal metabolism and physiology of organism. Further a more sensitive method is required to rule out the positive influence of microorganisms on vanillin yield. Radiation processing of cured bean can be effectively used for the microbial decontamination for increasing the quality and shelf life of cured bean, a dose of 5 kGy was found to be sufficient for total microbial decontamination further will also improve the extractability of vanillin trapped in the cellulose matrix otherwise not available for the normal extraction procedures. Controlled fermentation using fermentor with different combination did not yielded positive results. The location of the seed within the bean is clearly depicted. Biochemical studies did not find major changes in the seed during curing. Harvesting the vanilla beans can be prolonged when the whole bean turn brown on vine for better yield of vanillin, it can save time and cost involved in the laborious curing process, to get maximum amount of vanillin if the interest is to get only vanillin from the beans. Most of the Indian farms/farmers cure the bean systematically using standard traditional method producing a good quality cured bean in the international market. Vanillin content and other parameters cannot be correlated with other physical, geographical and other cultivation practices carried out for the cultivation of the crop.