

## FERMENTATION OF CARROT

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### ABSTRACT

*This report will mainly focus on procedure to making wine using carrots. Alcohol is one of the most widely used recreational drug in the world. This would be a healthy version of it. Made entirely from the root vegetable. Vodka is basically scentless and tasteless, whereas a distilled spirit made with a beet or a carrot really captures the essence and the experience of taking a vegetable or fruit, smelling it, biting into it and getting that flavour.*

**Keywords:** Carrot, fermentation, wine, natural.

### I. INTRODUCTION

We wanted to do something for the common people. This research started with the question of how can we make something so addictive, healthy and safe to consume. After a lot of surfing we concluded fruit or vegetable wine to be than normal ones. Carrot was chosen as readily available and comparatively cheap. Carrots can be roasted, juiced, and now, taking on their most exciting role yet, transformed into alcohol.

### II. PROCEDURE

1. Zest the orange or use orange extract and keep aside. Then make orange juice. Keep aside.<sup>[1][3]</sup>
2. Peel the carrots. Wash and chop them in a food processor.
3. Bring the water to a boil.
4. Cook the carrot on medium flame until soft.
5. Cool the slurry.
6. Add the orange or lemon zest and orange juice when it is still warm.(can add orange extract instead of zest but limited).
7. Now transfer the carrot orange mix into a large glass jar.
8. Mix well with a wooden spoon and add sugar.
9. When the mix is cooled completely, add the raisins(can use grapes also), cloves( or nutmeg or cinnamon ) and cracked wheat(rice) and mix well.
10. Sprinkle the yeast (*Saccharomyces cerevisiae*) on top of the mix. Do not mix.
11. Let it sit undisturbed for a day.

12. Cover the mouth of the glass jar with a cheese cloth and wrap tightly.
13. Let it ferment for 21 days. Keep stirring every day with a wooden spoon.
14. After 3 weeks, strain the fermented liquid using a strainer or cheese cloth.
15. Then store it in jar and cork it tightly.
16. Chill and serve.
17. If you like a really boozy wine, age it for 3 more weeks .

### III.OBSERVATION

1. Peach colored wine.
2. Quick and easy to make recipe.
3. Containing about 5% alcohol.
4. Iodoform test indicating (yellow precipitate) presence of alcohol.<sup>[2]</sup>



#### IV. BENEFITS

1. Carrot wine has a particularly high content of  $\beta$ -carotene, a source of vitamin A. It is also rich in anticancer agent of b-carotene
2. High in many minerals including calcium, copper, magnesium, potassium, phosphorus, and iron.
3. Carrot wine is rich in bioactive compounds like carotenoids & dietary fibres
4. The wine is also rich in acids of Glutamic acid, succinic acid,  $\alpha$ -ketoglutaric acid, lactic acid, glycolic acid.
5. Enriched in vitamin A, vitamin K to help blood clot properly.
6. Good source of antioxidants & dietary fibre to improve eyesight & strengthens immunity .
7. Wine yeasts are yeasts which will give about 17% alcohol while bread yeasts will die of alcohol at about 8%.<sup>[4]</sup>

#### V. CONCLUSION

1. Rich in colour, flavour and boozy.
2. The amount of juice obtained was half a jar per half kilogram of carrot.
3. Home-made and economical.
4. A refreshing experience.

#### VI. FUTURE SCOPE<sup>[5]</sup>:

The Central government is planning to include wine in food. Today, though wine consumption is low, awareness regarding wine is being created through various government efforts. Hence, including a different (and easily available and affordable ) variety will also boost up this initiative. In Maharashtra wine industry, definitely has a very bright future in the next few years.

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#### REFERENCES

- [1.] [www.lowcostliving.co.uk/home-brewing/carrot-wine-recipe/](http://www.lowcostliving.co.uk/home-brewing/carrot-wine-recipe/)
- [2.] <https://www.quora.com/in/Describe-iodoform-test-What-type-of-compounds-will-give-a-positive-iodoform-test>
- [3.] <https://www.quora.com/What-is-the-difference-between-wine-yeast-and-regular-bread-baking-yeast>
- [4.] <http://www.smallholderseries.co.uk/>
- [5.] [http://www.business-standard.com/article/economy-policy/-maharashtra-s-grape-wine-industry-has-bright-future-ahead-106121301085\\_1.html](http://www.business-standard.com/article/economy-policy/-maharashtra-s-grape-wine-industry-has-bright-future-ahead-106121301085_1.html)