**GROUP NO.: IV**

**GROUP MEMBERS:**

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**OBJECTIVES:**

1. To produce a good fruit wine

2. To understand the process of wine making in light of organic chemistry’s concept(s) like how functional groups affect a certain substance’s characteristics

3. To study how the yeast works to convert the sugars present in the fruit juice to alcohol

**MATERIALS/CHEMICALS**

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* juicer
* knife
* tablespoon
* Plastic container
* Glass container
* Air-lock covers for the container

**INGREDIENTS**

* Pineapple fruit
* Water
* Sugar
* Yeast

**PROCEDURE:**

1. Extract the juice by mashing or crushing. Apply pressure when using fleshy and juicy fruits such as cashew and pineapple. With soft fruits, peel them and add water before extracting the juice. For citrus, squeeze out the juice either by hand or by presser. Boil with water all hard or dry fruits, such as guava and santol.

2. Filter or strain the juice to remove any solid particles. Add 200-300 ppm sodium or potassium metabusulfite to prevent contamination and browning. Place the treated juice in a sealed container and keep it for 24 hours. In case the metabisulfite solution is not available, simply boil the juice.

3. Before fermenting, test the acid and sugar contents of the treated juicer or must. for testing acid content, use pH paper. To produce dry wines, set pH at 3-4. For sweet wines, use pH 3.5-5.5. Adjust pH with juice or citrus or unripe fruit, or dilute with water.

To test sugar content, use the hand refractometer. A reading of 20o B is good for dry wine and 25o for sweet wine.

4. Add yeast to the must. Commercial dry-wine yeast starters can be used, but good results can be obtained with pure cultures of wine yeast in agar slants. Fleischman's or baker's yeast can be used, but it imparts a "bready" aroma and flavor to the wine.

5. Stir the mixture thoroughly and transfer it to fermentation containers. Enamel, floss, wooden oak, earthenware, and plastic containers are suitable for winemaking. Wide-necked vessels are preferable for pulp-fermentation to facilitate removal of pulp and cleaning. Narrow-necked containers are best suited for juice fermentation and storage, since they can be sealed easily with a lock or rubber bung.

6. Seal the fermentation container with a water valve or water bung. When bubbles form, it means that fermentation is going on. The rate at which gas bubbles through the bung indicates the rate of fermentation.

Do not allow the temperature to drop below 19oC or exceed 28oC.

7. After four or more weeks, the absence of gas indicates the end of the fermentation.

8. Siphon the clear liquid into sterile bottles or oak barrels. In moving the jar, be careful not disturb the sediment. Fill the bottle or barrel with semi-clear wine 1.5-2.5 cm below the cover, so that only a minimum amount of air is allowed inside.

9. Age the wine for one year or longer. Longer aging results in more mature and mellow wines. If sediments form, transfer wine into another bottle.

10. After aging, the wine should be clear. When it is not, use clarifying agents, such as egg whites, gelatin, milk, bentonite or powdered charcoal (table 6). Add and stir the agent. Let it stand for 7-10 days, and filter the wine into clean, properly sterilized bottles. Seal bottles with cork.

11. Store wine with drive-corks in horizontal position. Place the bottles in a cool, well-ventilated, and dark place.

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