Comparison of SSU Freshman Housing Water to Rohnert Park City Water

Experiment by Cassidy Barber, Dulce Palacios, Maggie Murray, Soledad Ozores
Our Question

Does the quality and taste of drinking water in SSU’s Freshman Housing differ from drinking water in Rohnert Park?
Water quality versus taste

What is water quality?
Measurement of specific chemical substances in the water to determine whether it is useful for specific purposes.

What is taste?
Subjective sensation of flavor of a substance.
Background of water sources

Sonoma State University

- SSU receives its campus drinking water from its own well.
- Well water is pumped to storage tanks.
- Storage tanks are located near the Facilities Services Corporation Yard.

City of Rohnert Park

- Rohnert Park receives surface and well water from the Sonoma County Water Agency (SCWA).
- Production wells along the Russian River and Cotati Aqueduct provide the water.
- There are seven storage tanks in Rohnert Park.
* Filtered water from Rohnert Park
Procedure: blind taste test

1. Twelve male and twelve female first-year students participated.

2. Two members of the group set up the water samples in a random order and provided them to two “blind” group members.

3. The two “blind” group members provided the participant with the samples.

4. Participants were asked to rate each sample on the scale from 1 to 10 and to provide comments.

5. Once the participant had tasted all samples, they chose their favorite sample.
SSU water tasted better than RP water

SSU = 6.4
RP = 6.0
Results: blind taste test

Comments

SSU:
- “Tastes cleaner.”
- “Tastes like bottled water.”
- “Tastes like water.”

Rohnert Park:
- “Just water, I hope.”
- “Tasted greasy.”
- “It has an acidic taste.”
Procedure: testing water quality

1. We dipped aquarium strips into four different water samples: Rohnert Park, Sauvignon, Zinfandel, and Filtered.
2. We then stirred the strips in each sample two times and took them out in a horizontal manner, colored squares facing upwards.
3. We waited 30 seconds to see the results.
4. We compared the strip colors to the back of the aquarium strips bottle.
Results: aquarium strips

The filtered water had significantly different results compared to the other three.

<table>
<thead>
<tr>
<th></th>
<th>Nitrate (ppm)</th>
<th>Nitrite (ppm)</th>
<th>pH</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSU</td>
<td>160</td>
<td>3</td>
<td>7.5</td>
</tr>
<tr>
<td>RP</td>
<td>160</td>
<td>3</td>
<td>7.8</td>
</tr>
<tr>
<td>Filtered</td>
<td>80</td>
<td>2</td>
<td>6.8</td>
</tr>
</tbody>
</table>
SSU water was harder than RP water
# Results: hardness

<table>
<thead>
<tr>
<th>Classification</th>
<th>mg/l or ppm</th>
<th>grains/gal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soft</td>
<td>0 - 17.1</td>
<td>0 - 1</td>
</tr>
<tr>
<td>Slightly hard</td>
<td>17.1 - 60</td>
<td>1 - 3.5</td>
</tr>
<tr>
<td>Moderately hard</td>
<td>60 - 120</td>
<td>3.5 - 7.0</td>
</tr>
<tr>
<td>Hard</td>
<td>120 - 180</td>
<td>7.0 - 10.5</td>
</tr>
<tr>
<td>Very Hard</td>
<td>180 &amp; over</td>
<td>10.5 &amp; over</td>
</tr>
</tbody>
</table>

### Hardness: The amount of dissolved minerals in the water.
Disclaimers

- **Taste is subjective:**
  - Everyone has different taste preferences.
  - We only tested first-year students, who live on campus.

- **Aquarium strips:**
  - Only tested for a Nitrate, Nitrite, Hardness and pH.
  - Relied on color coding for measurements.

- **Samples:**
  - We only used two freshman villages.
  - We only used four sections of Rohnert Park.
Conclusion

- Taste Test: a higher amount of students prefer campus drinking water than city water.

- Water Quality Assessment: this data shows that Sonoma State University and the city of Rohnert Park have a relatively similar quality of water, despite coming from different places.
Acknowledgements

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- Twenty-four volunteers, without whom we would not have been able to conduct our water quality taste test.
Works Cited


