

CO₂Sustain[®]

Increasing Carbonisation shelf-life with CO₂Sustain[®]

Drink Type: Cola

Objectives

- Current carbonation level at the end of shelf-life is 6.4g/L
- Can the carbonation level at the end of shelf-life be extended to 5.8g/L
- By the addition of CO₂Sustain[®] to give a sensory match for fizziness



Sample Preparation

- Cola was re-carbonated on an Armfield carbonator to 2 carbonation specifications 6.4g/l and 5.8g/l
- CO₂Sustain[®] was dosed @ 0.2g/l of 2501 into the bottles with 5.8g/l of CO₂ labelled 'A'
- Samples were filled into glass bottles and refrigerated overnight





A sensory panel of **8 participants** completed a blind taste test asking:

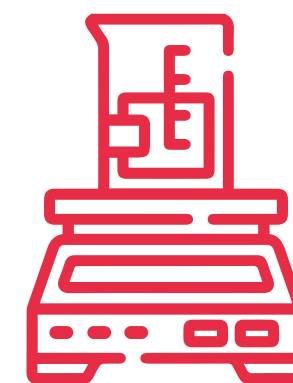
How would you describe the CO₂Sustain[®] sample?

- A. Less fizzy than sample B (blank)
- B. More fizzy than sample B
- C. No difference

Test Methods



The participants drank directly from the bottle. The bottles were then tested for carbon dioxide loss on pouring.



The 275ml sample bottle was poured gently into a glass vessel on an analytical balance.

The weight of CO₂ lost was recorded over a 30 minute period.

Sensory Experience

5

5 people recorded the sample of CO₂Sustain[®] as being fizzier

3

3 people recorded no difference

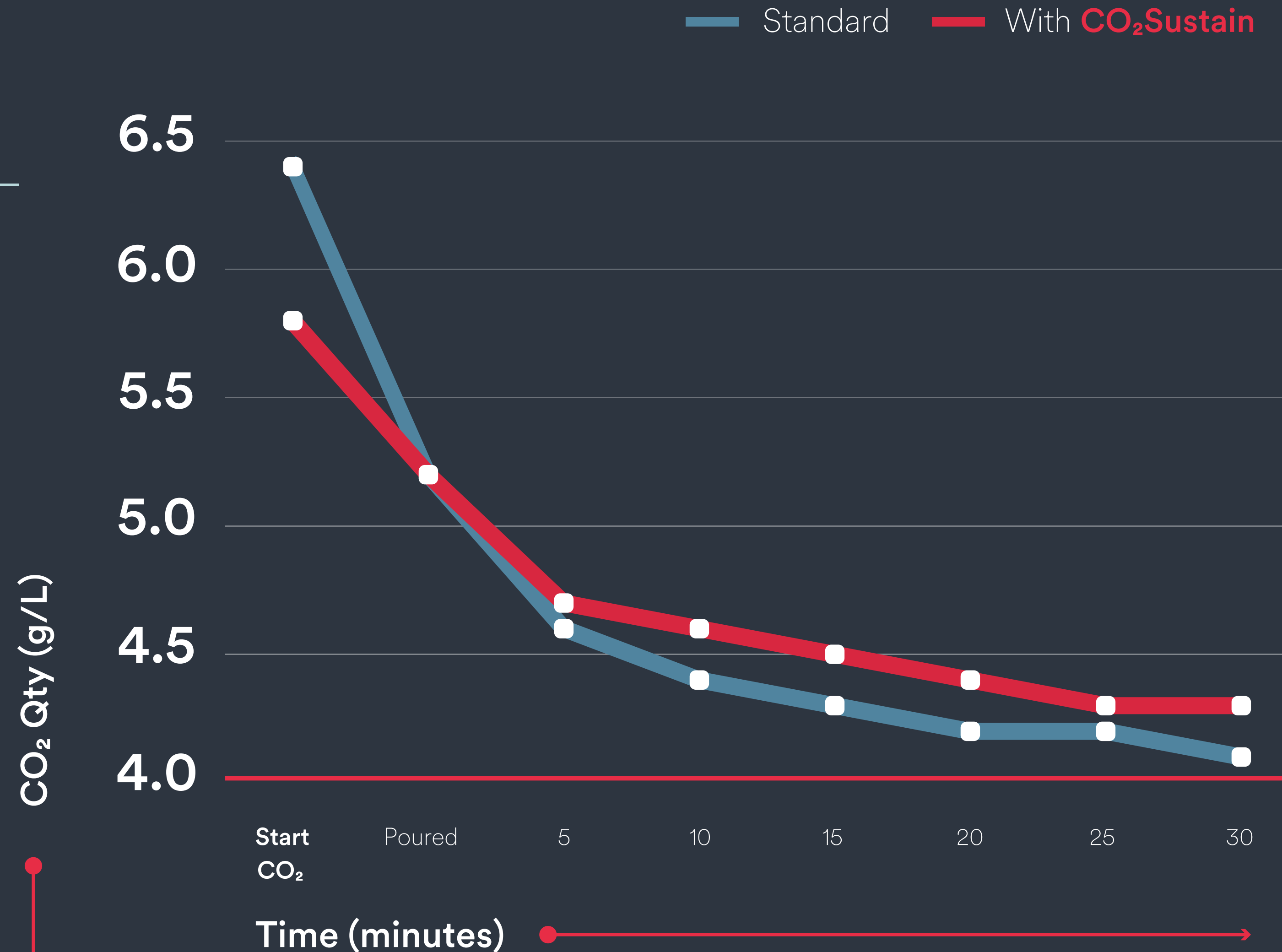


CO₂ Retention on Pouring

The graph shows that the sample with **CO₂Sustain[®]** retained CO₂ more when poured.

At the point of pouring, both samples recorded a carbonation level of 5.2g/L despite having different starting carbonation levels of 6.4g/L and 5.8g/L (with **CO₂Sustain[®]**).

The final level of CO₂ retained after 30 minutes was 4.3g/l for the sample with **CO₂Sustain[®]** and 4.1g/l for the standard sample.



Our Conclusion

Cola Carbonation Test



1

Adding CO₂Sustain® has allowed a sensory match at **0.6g/l lower CO₂**

2

If the beverage at the end of carbonation shelf-life is losing 01.g/l CO₂/week then 0.6g would equate to an **extra 6 weeks**



3

Presents the possibility to **lightweight the PET bottle**

Thank you.

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