

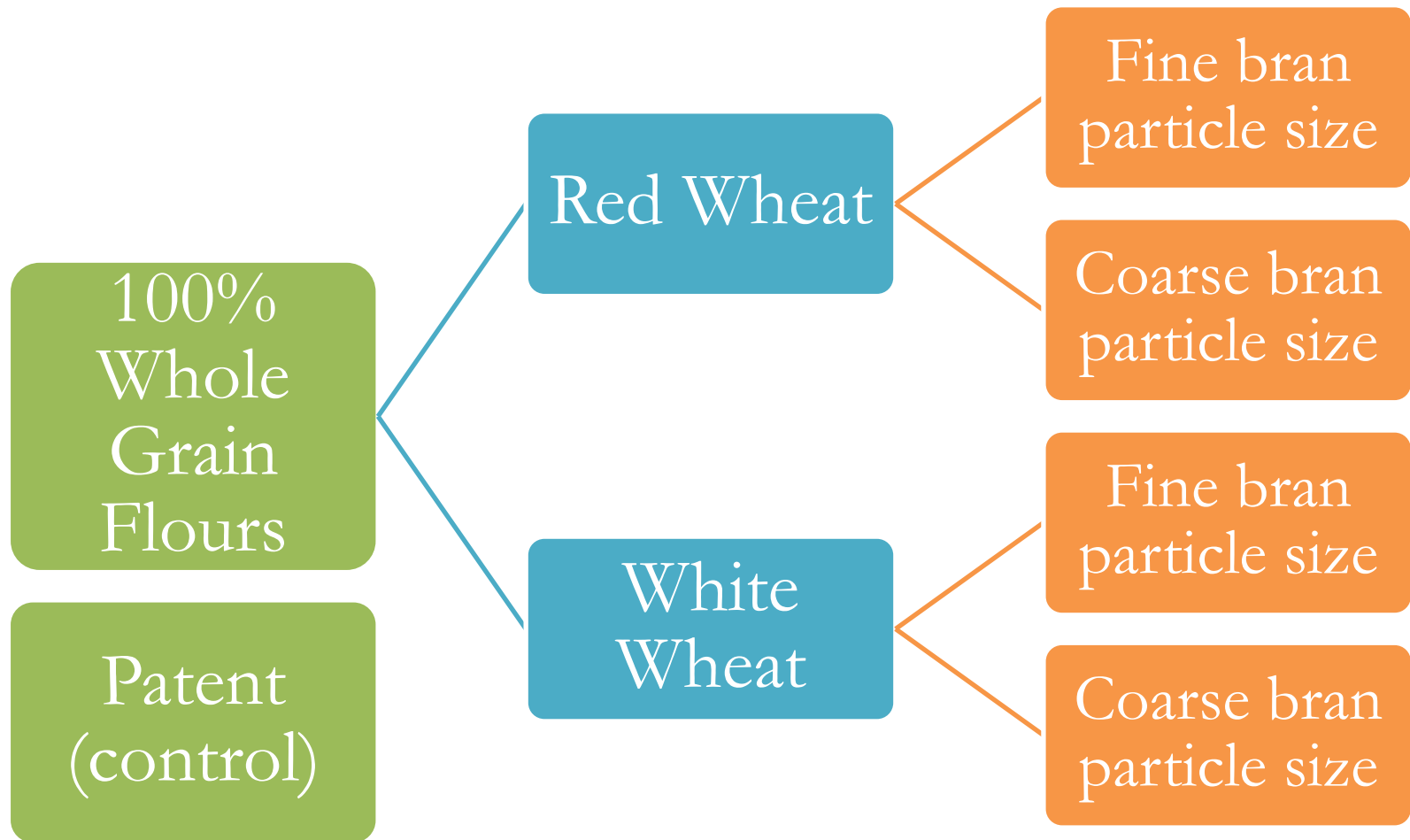
Red or White: Consumer perception of whole grain products

Carolyn Challacombe

Dr. Lisa Duizer

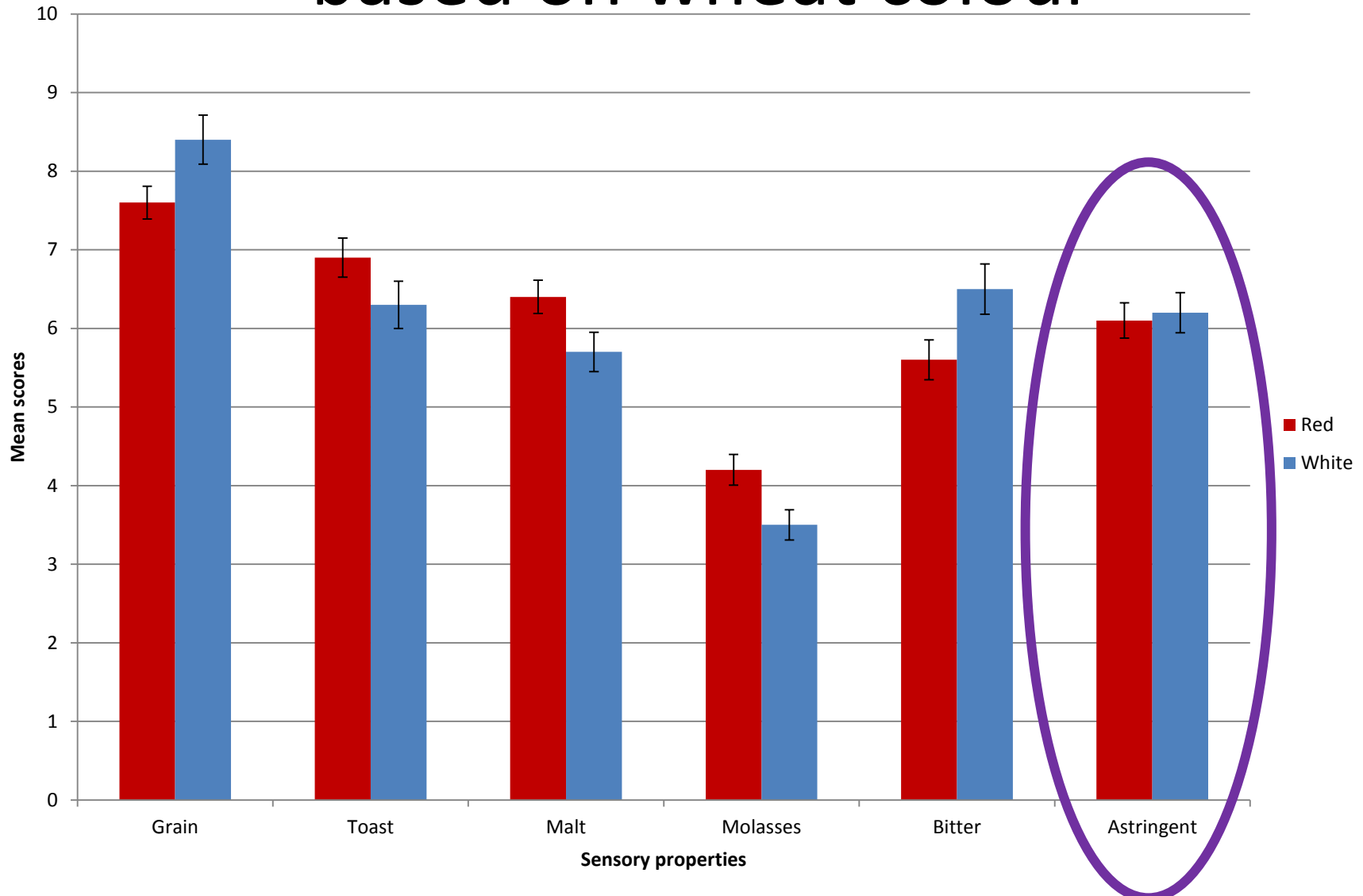
- Objectives:
 - To understand the sensory differences between whole grain products made with flour from red and white wheat
 - Trained panel
 - Consumer acceptance
 - To determine if sensory differences are related to the phenolic acid contents of these wheats

Bread and crackers prepared from:

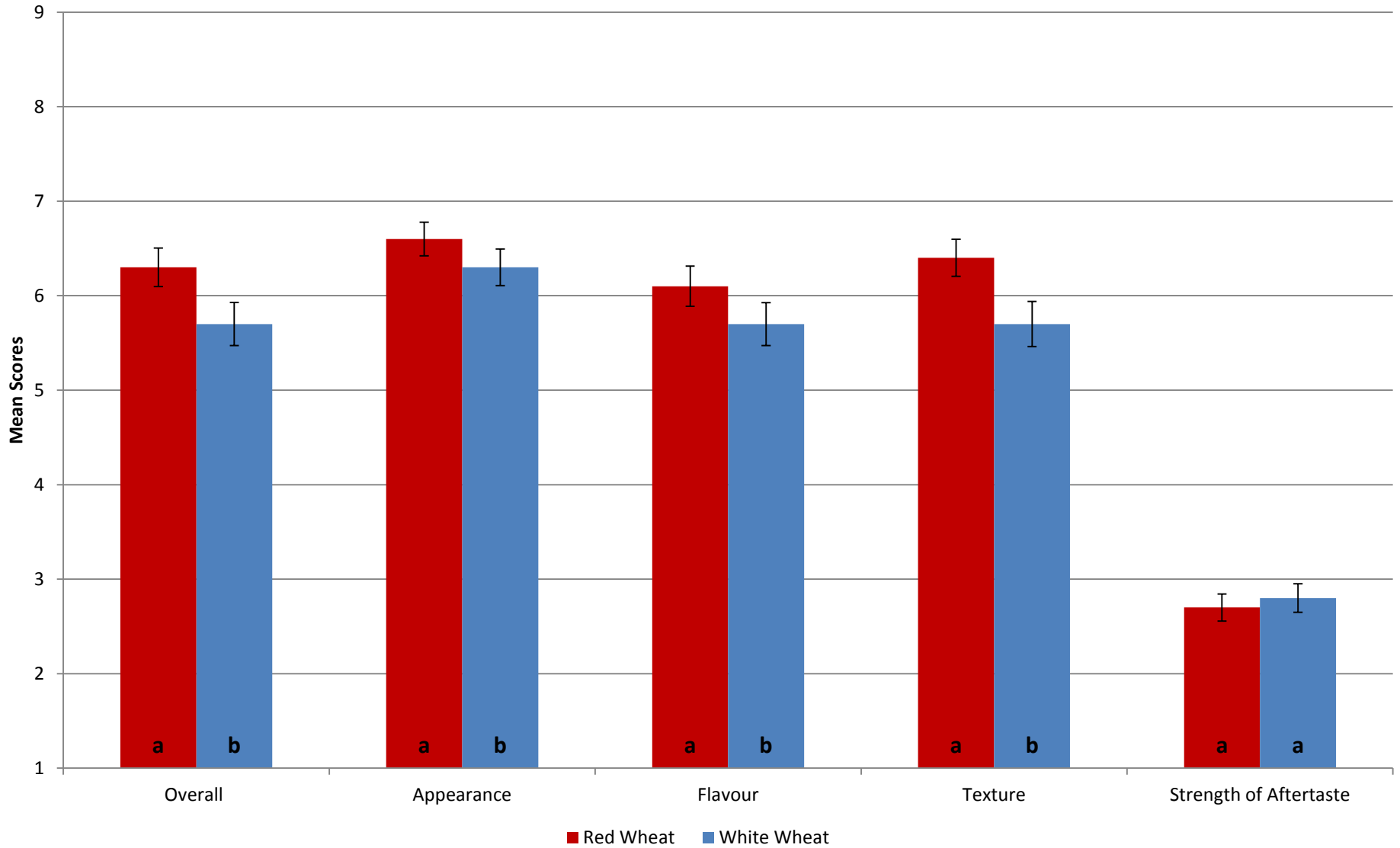


SENSORY ANALYSIS

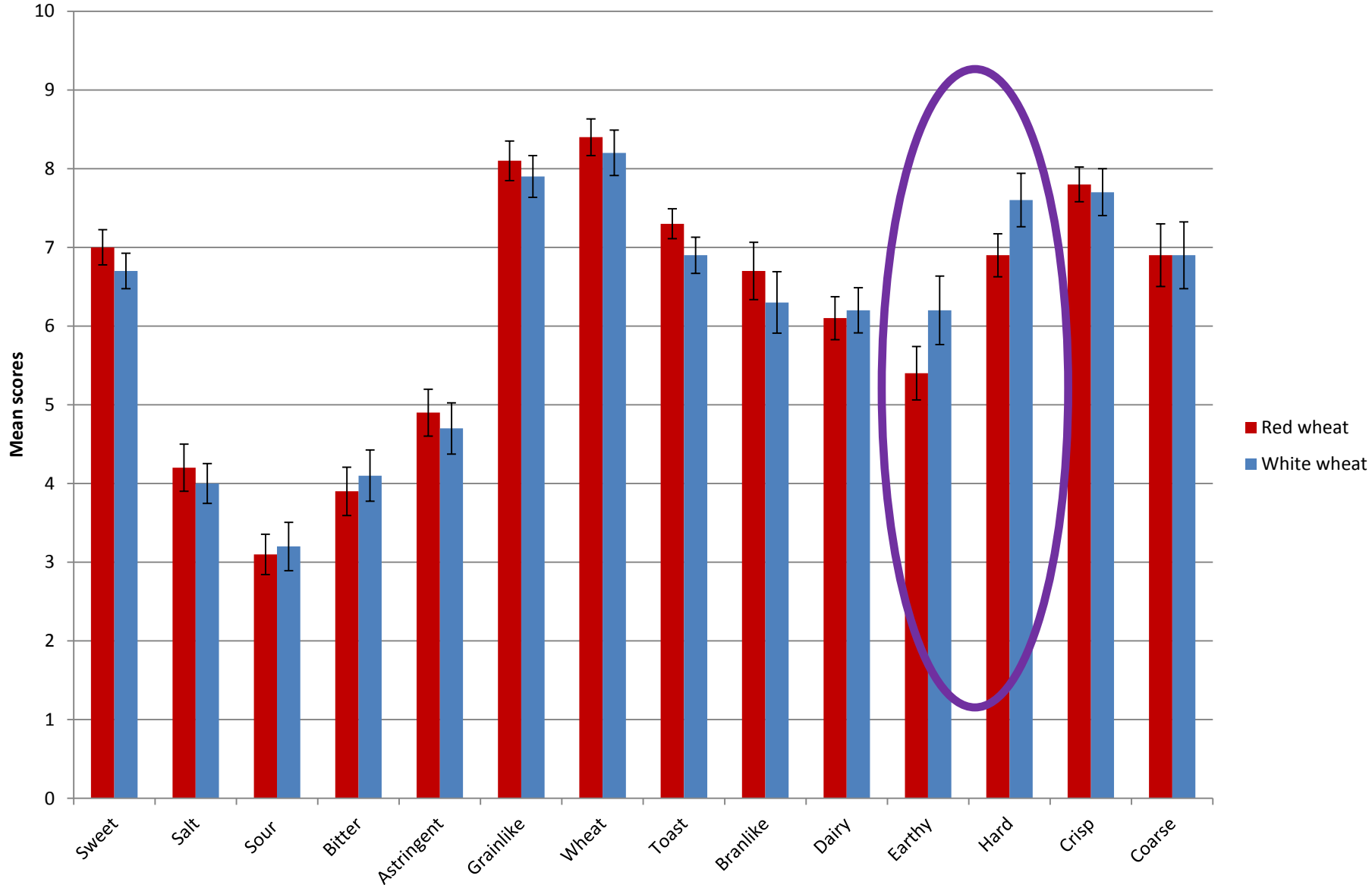
Trained panel evaluations of bread based on wheat colour



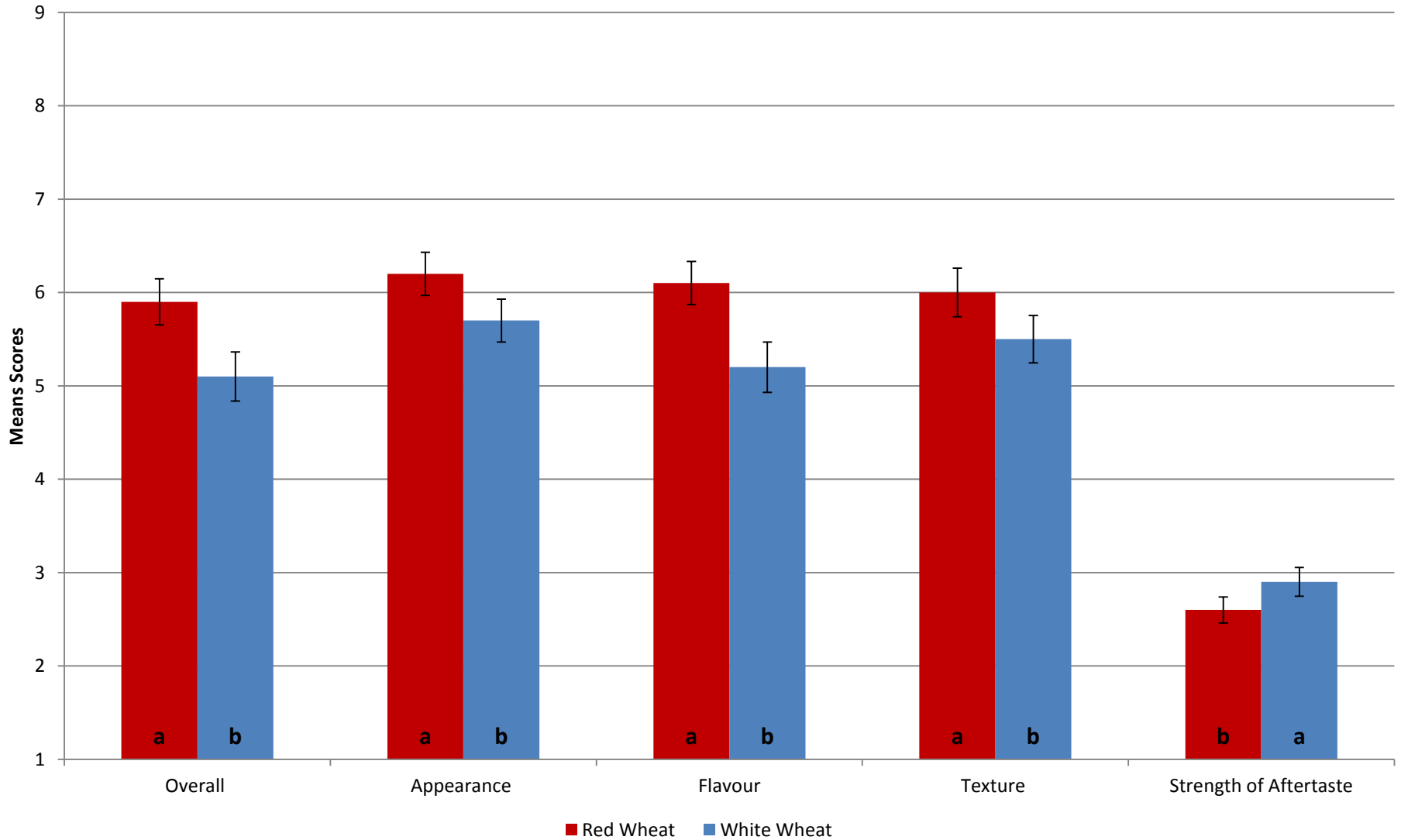
Consumer liking of bread



Trained panel evaluations of crackers based on wheat colour



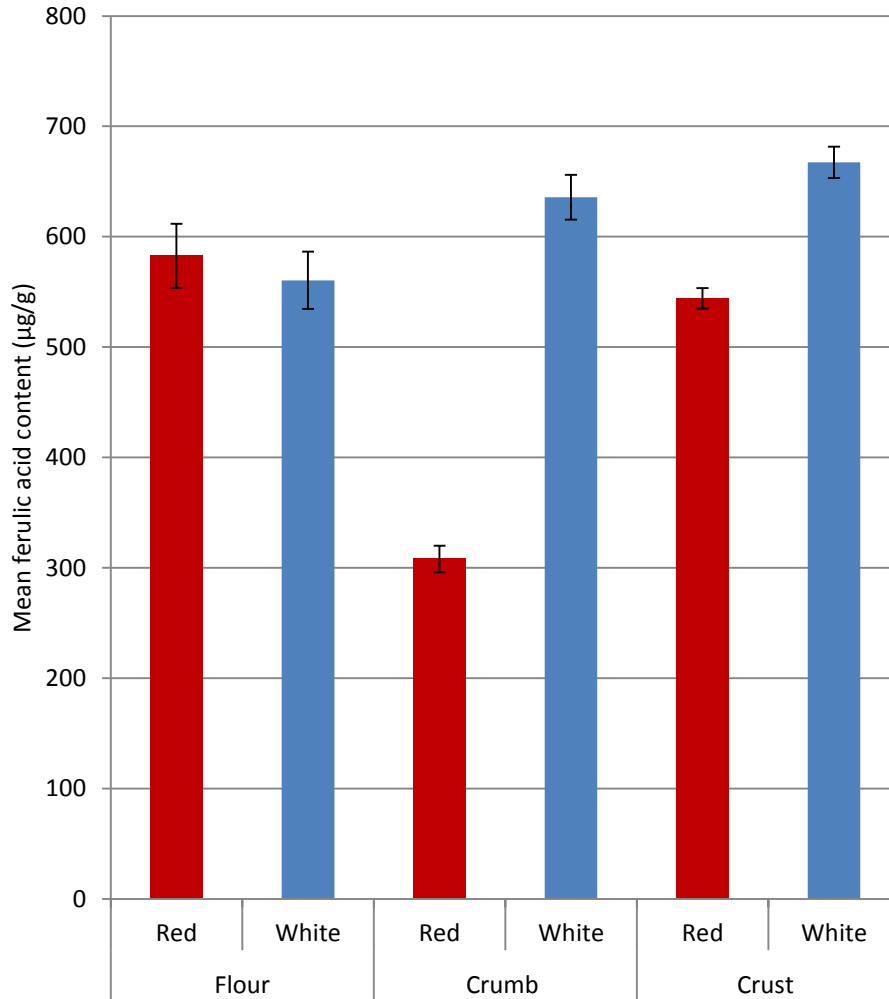
Consumer liking of cracker



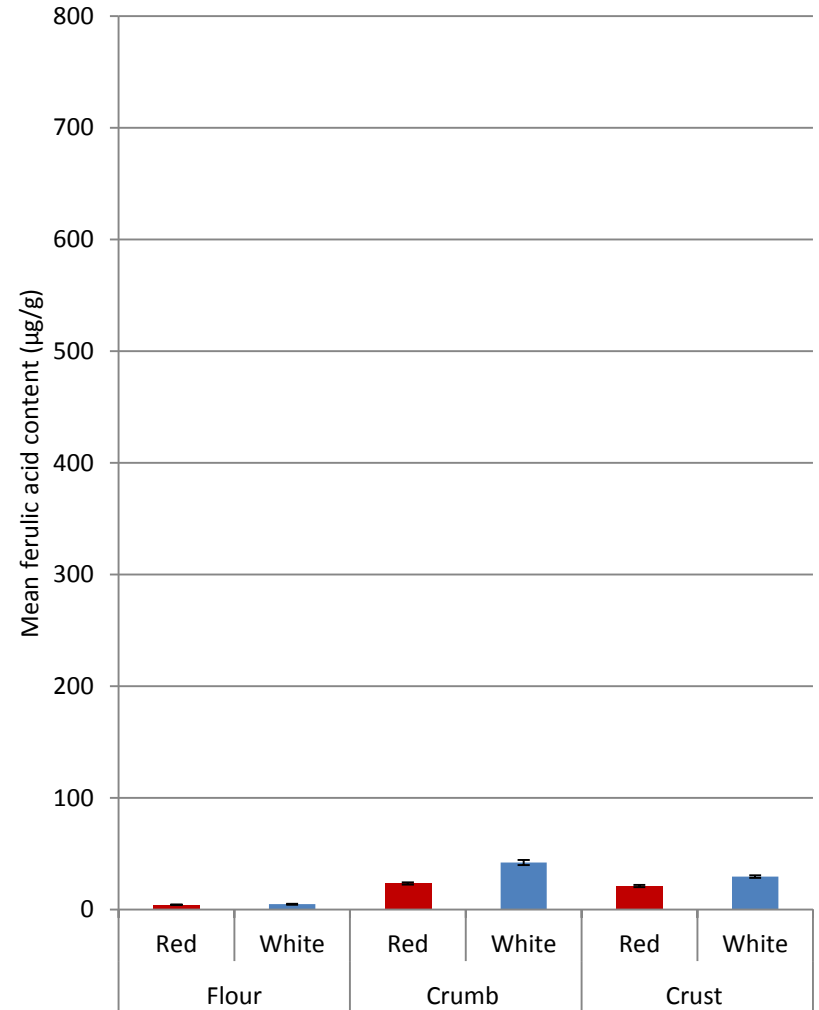
PHENOLIC ANALYSIS

Ferulic acid content - Bread

Bound

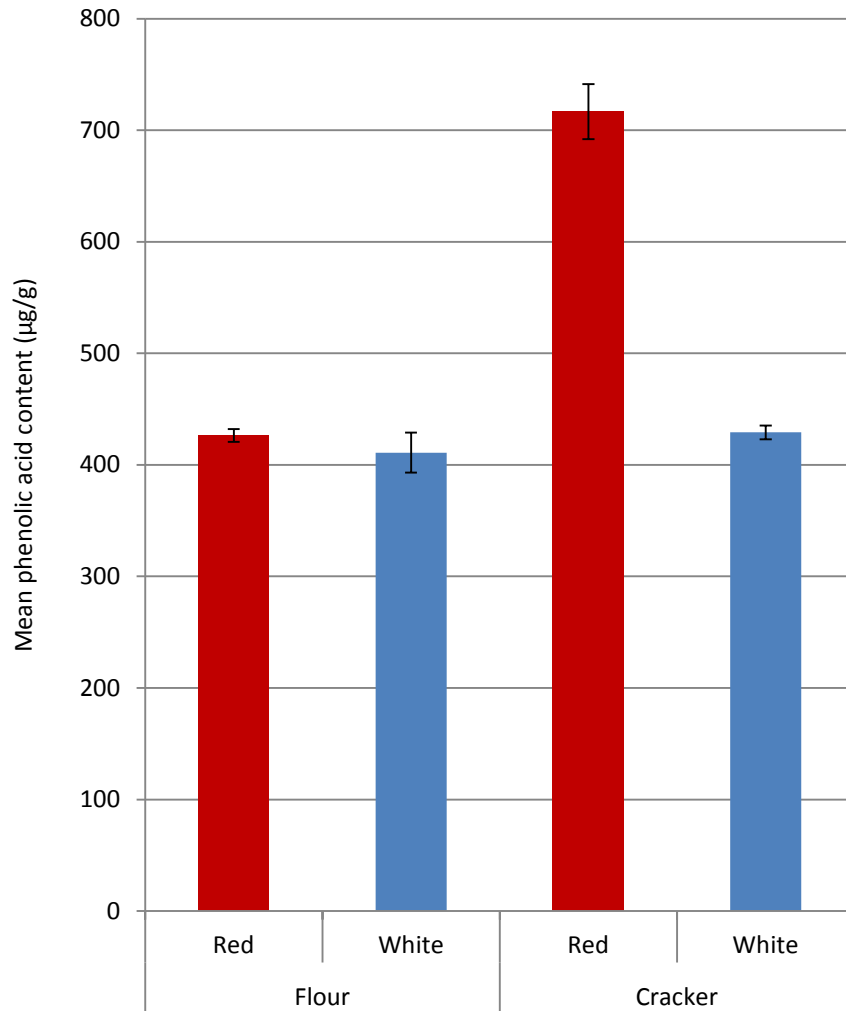


Free

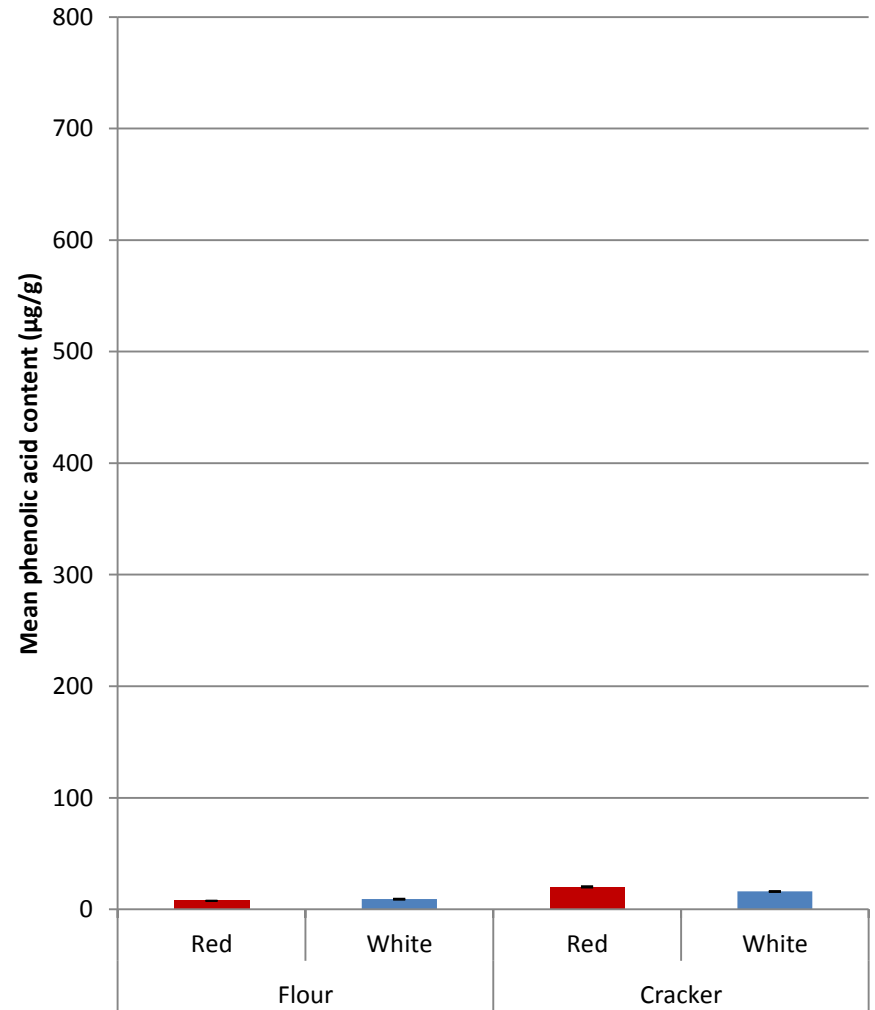


Ferulic acid content – Cracker

Bound



Free



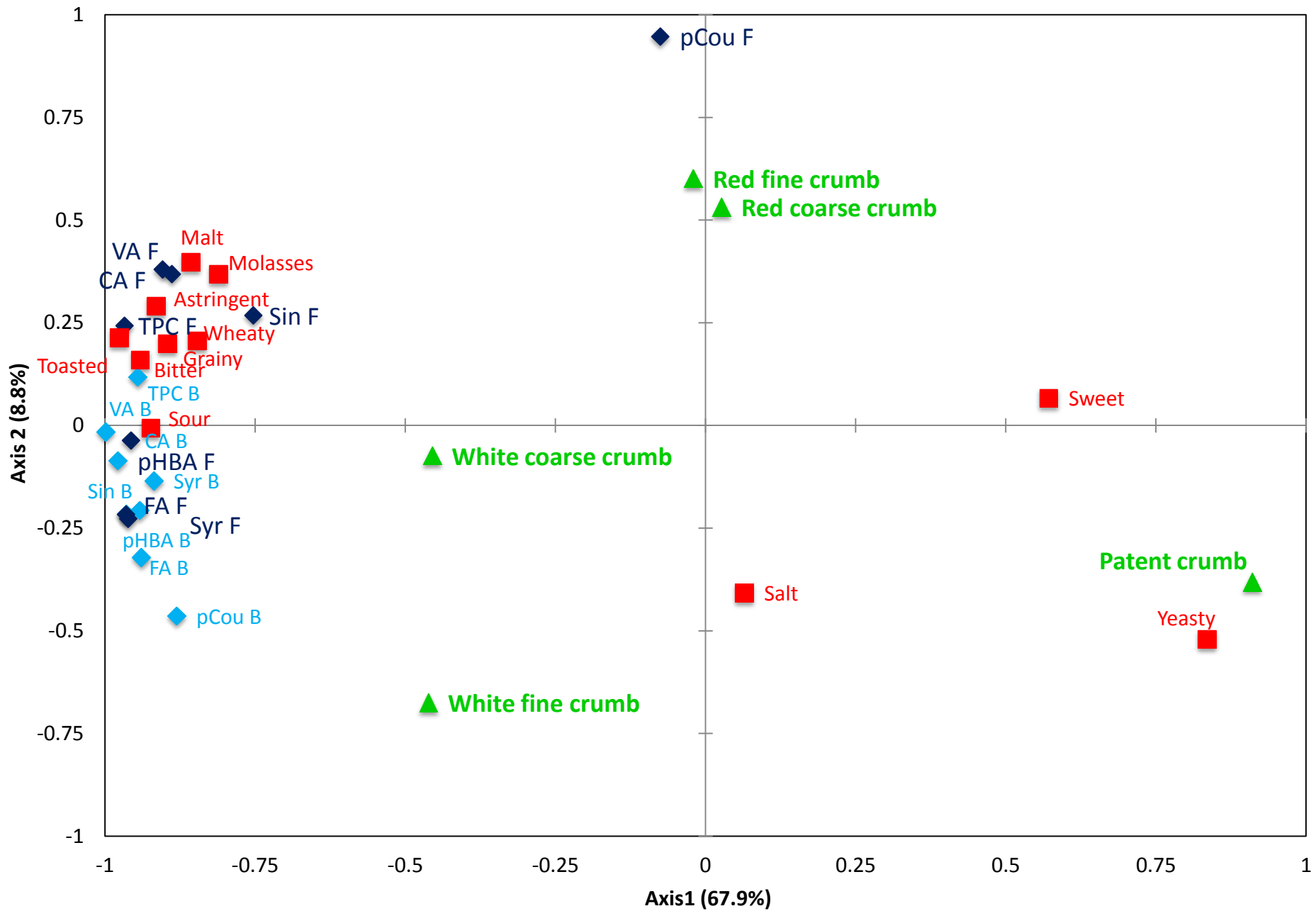
Phenolic acids:

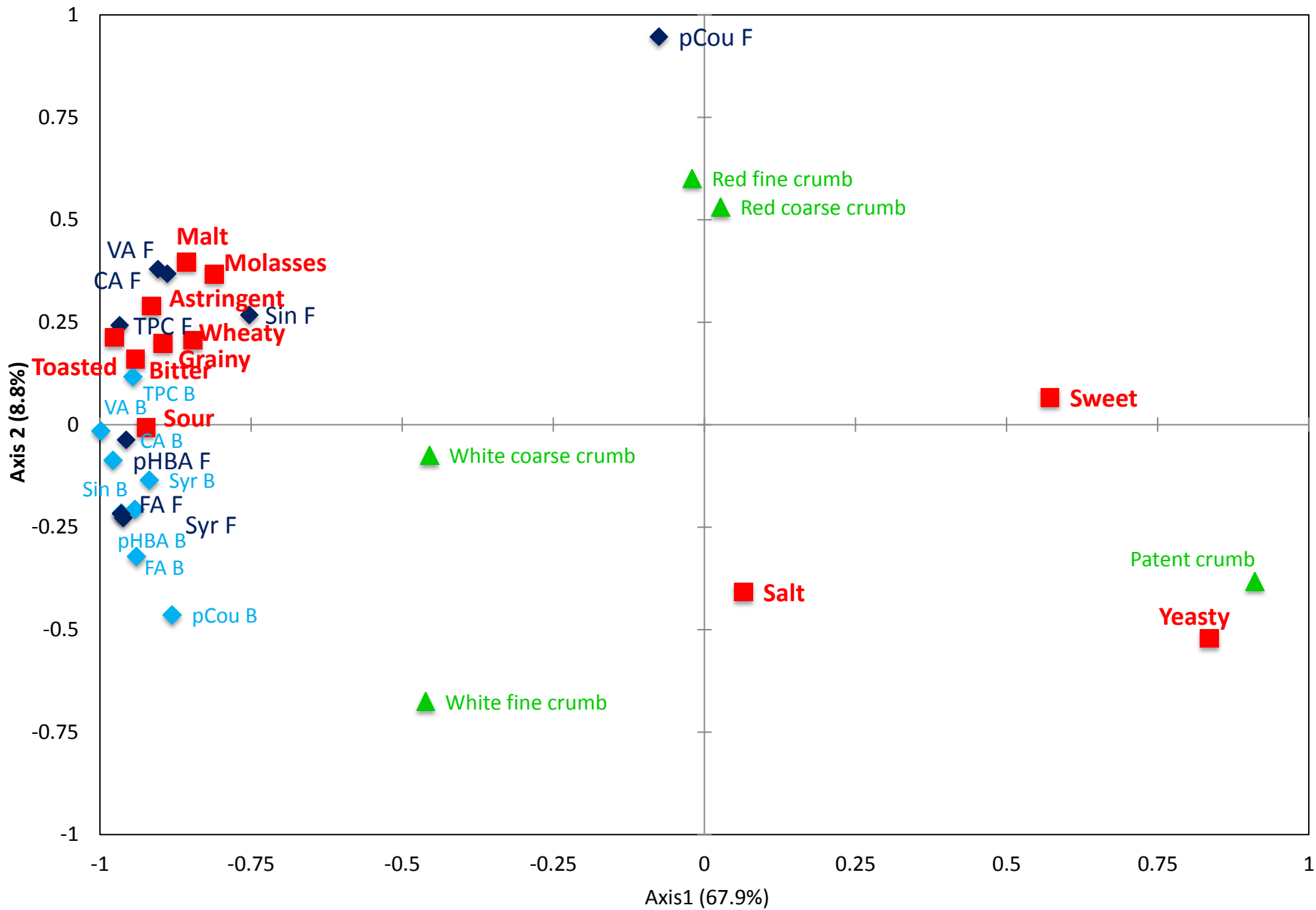
- Greater concentration of bound in comparison to free
- Few differences between individual acids and total phenolic content for red vs white
 - p-coumaric and sinapinic increase with baking
- Differences based on product type

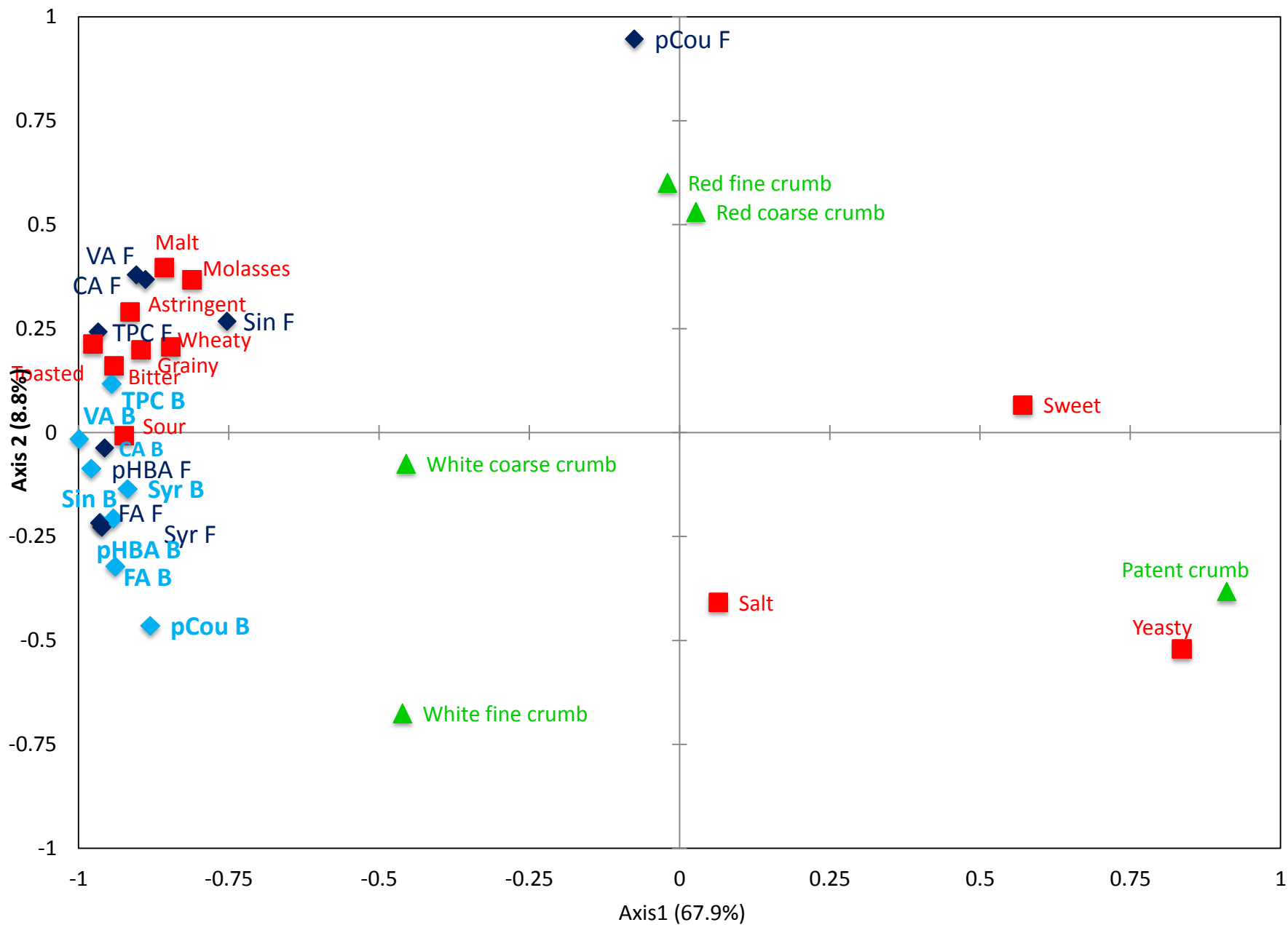
So what?

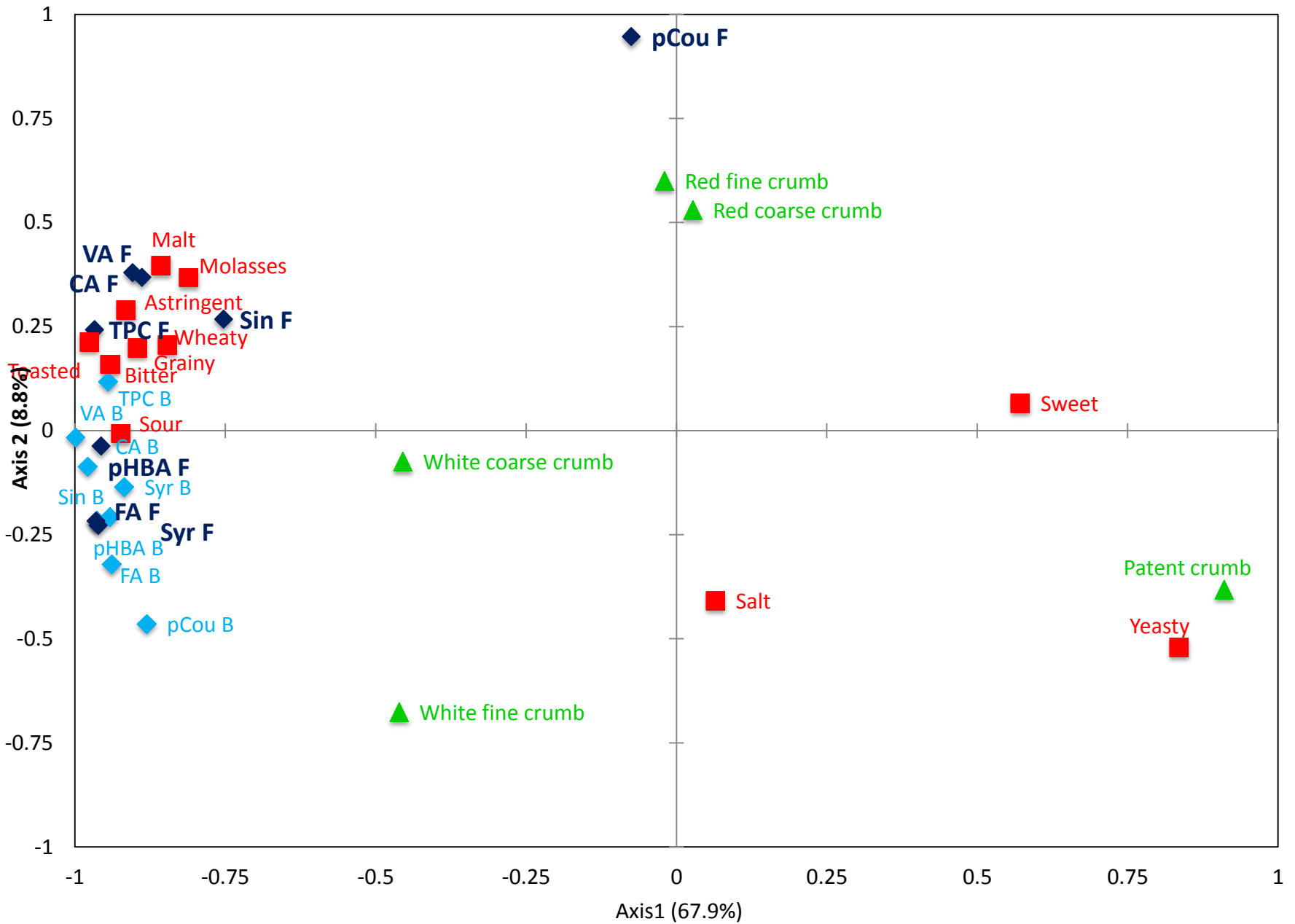
- Analysis
 - Partial least squares regression to examine relationship among all measured variables

PLS – BREAD CRUMB

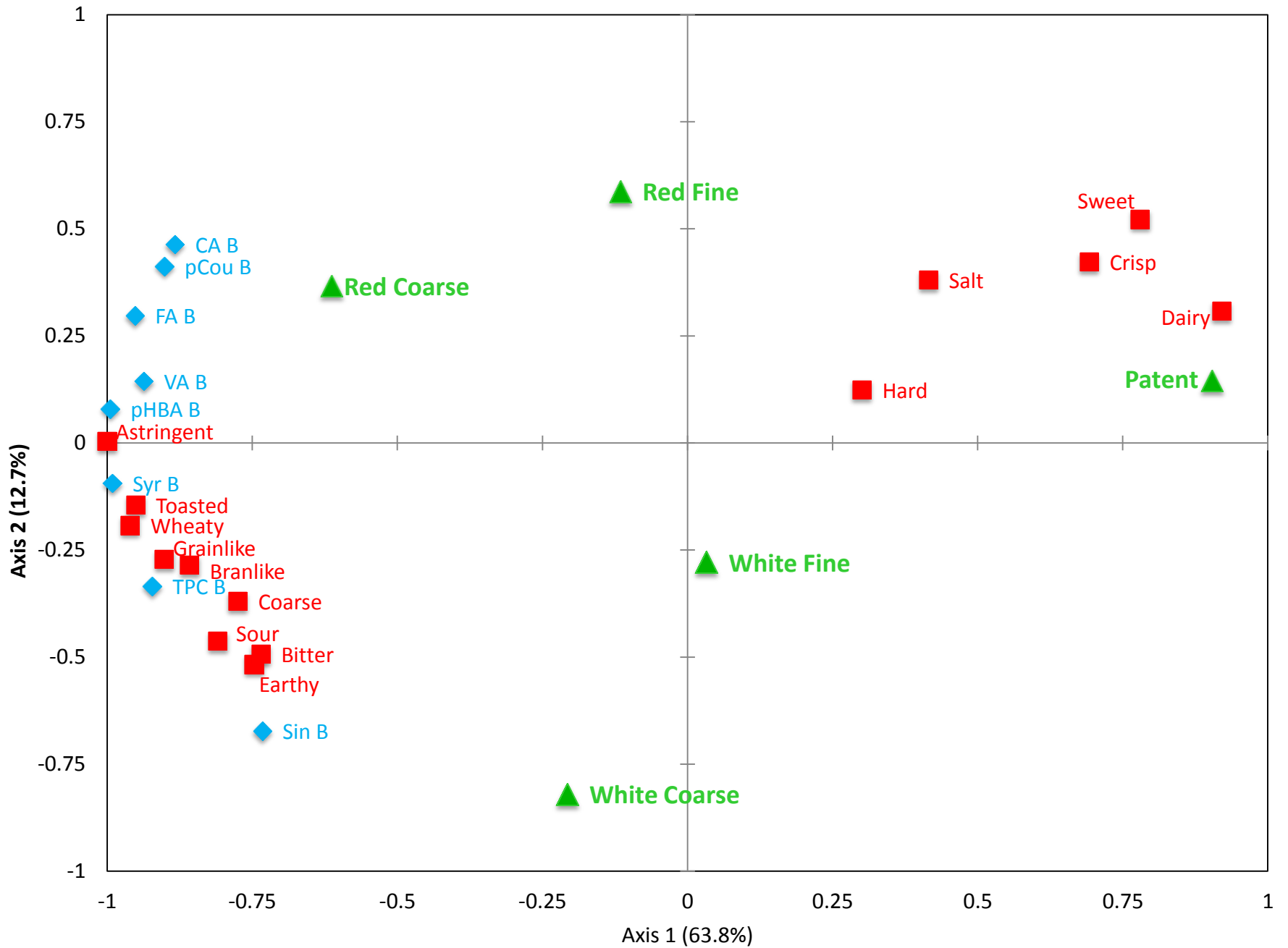


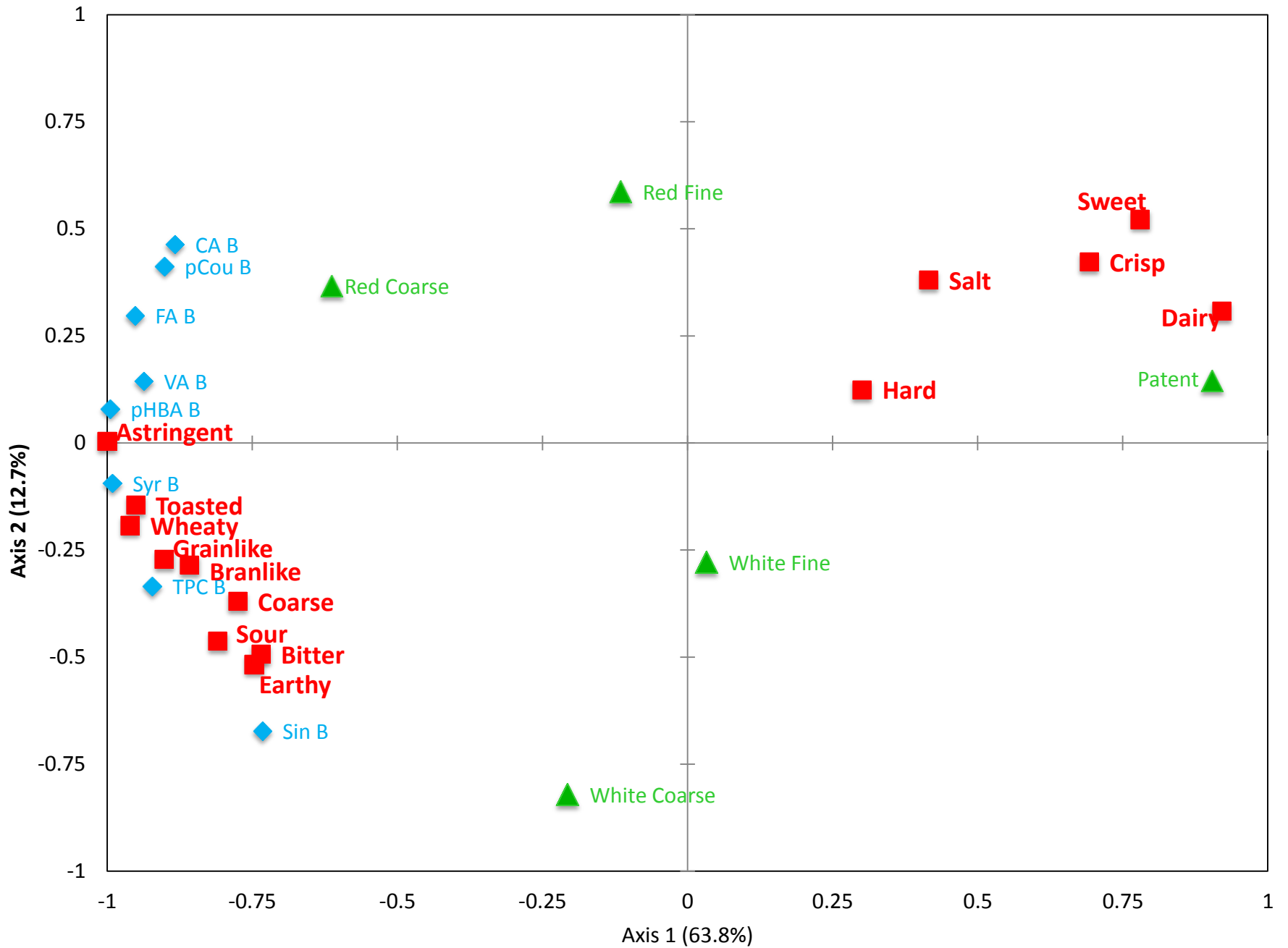


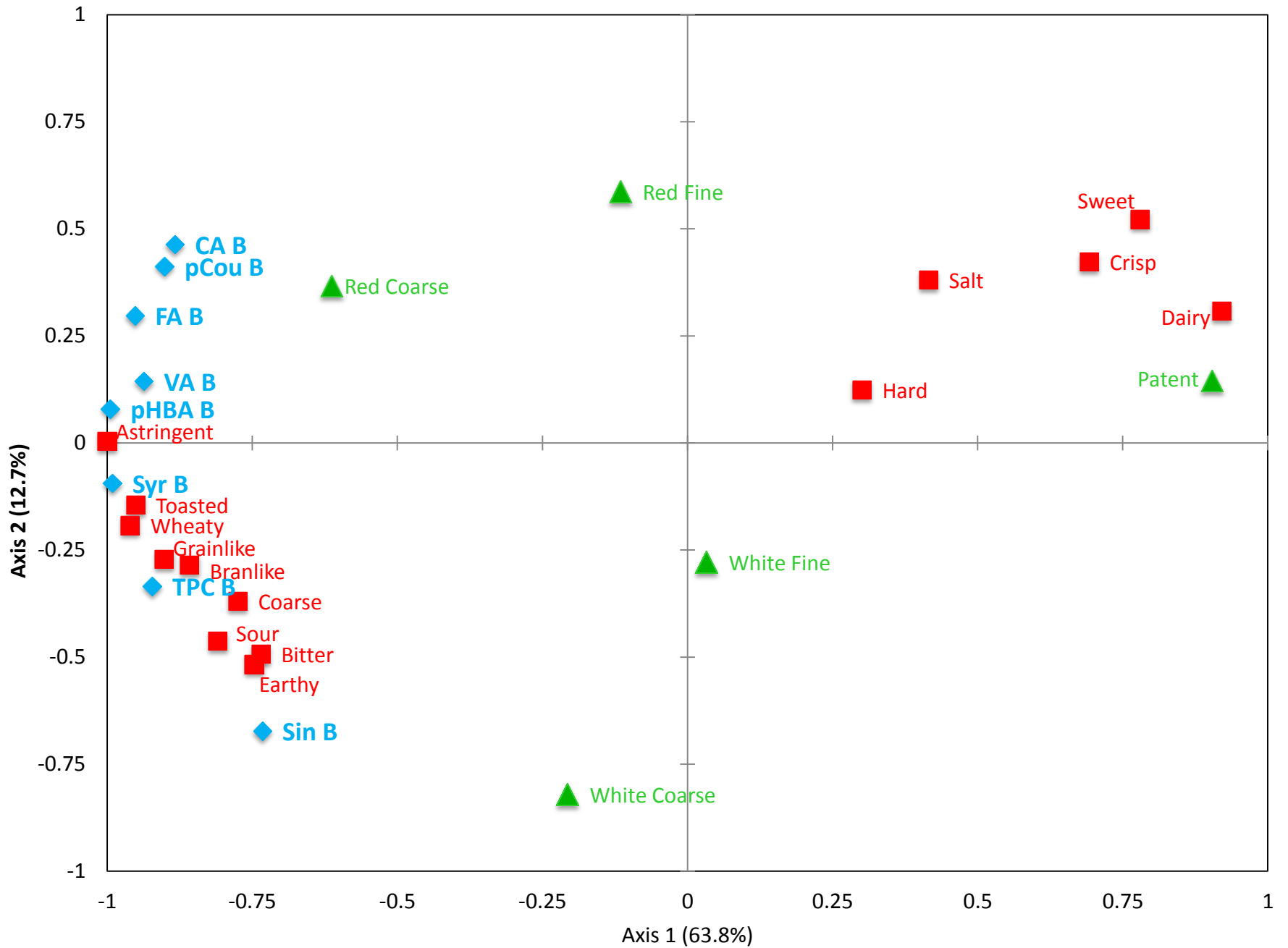




PLS - CRACKER







PLS SUMMARY

- Products from patent flour characterized by sweet, dairy notes with no direct contribution from phenolic acids studied
- Free and bound phenolics provide the highest predictive scores for bread
- Bound phenolics provide highest scores for cracker

Conclusion

- Wheat colour does affect sensory properties and liking of breads and crackers
 - Red wheat colour is not a negative
- Phenolic acids do influence sensory properties
 - Differences depending upon product type
- There may be other compounds that are contributing to sensory properties of whole grain products

Funding

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