

Influence of Pyrolysis Conditions on Char Properties

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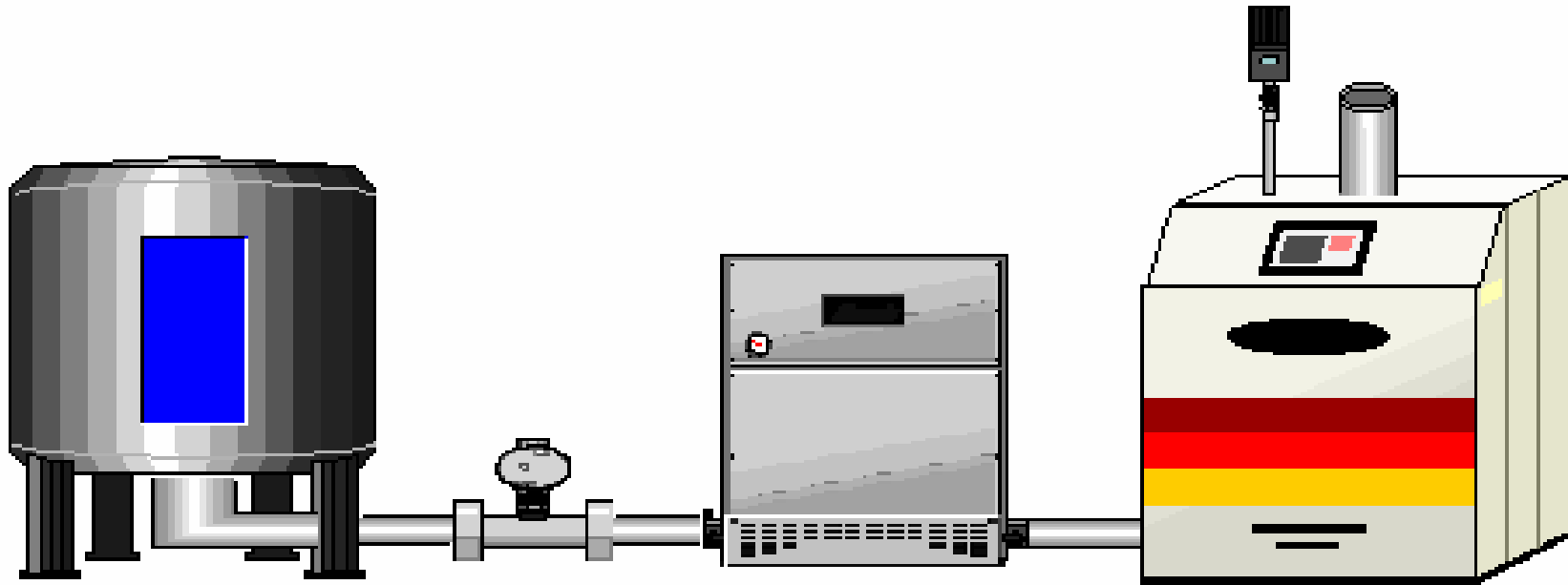
Intro

Char's ability to provide nutrients

Char's ability to facilitate nutrient retention/uptake

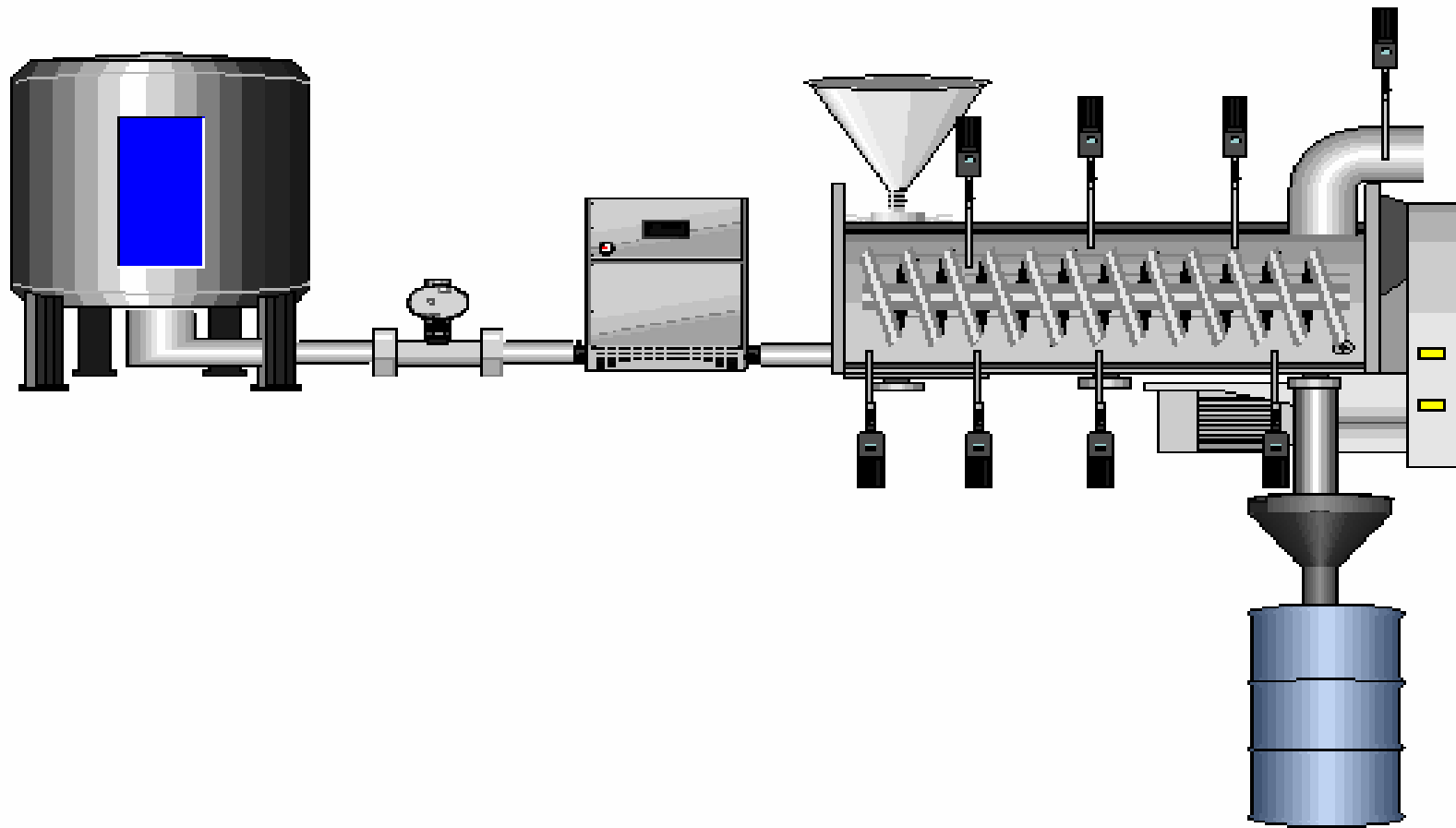
Low temperature char –
temperature range 375-500°

Sample Preparation Batch unit

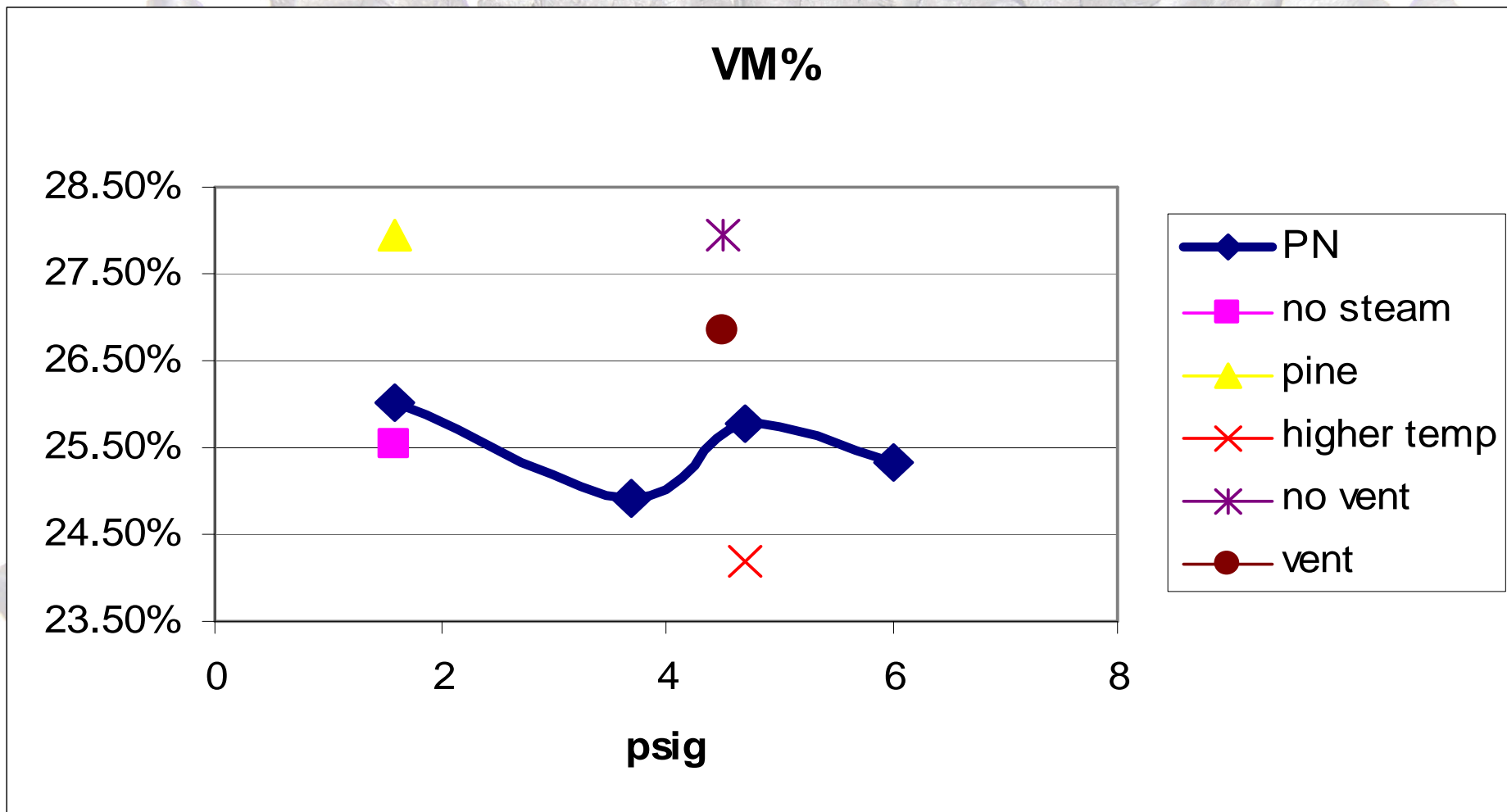


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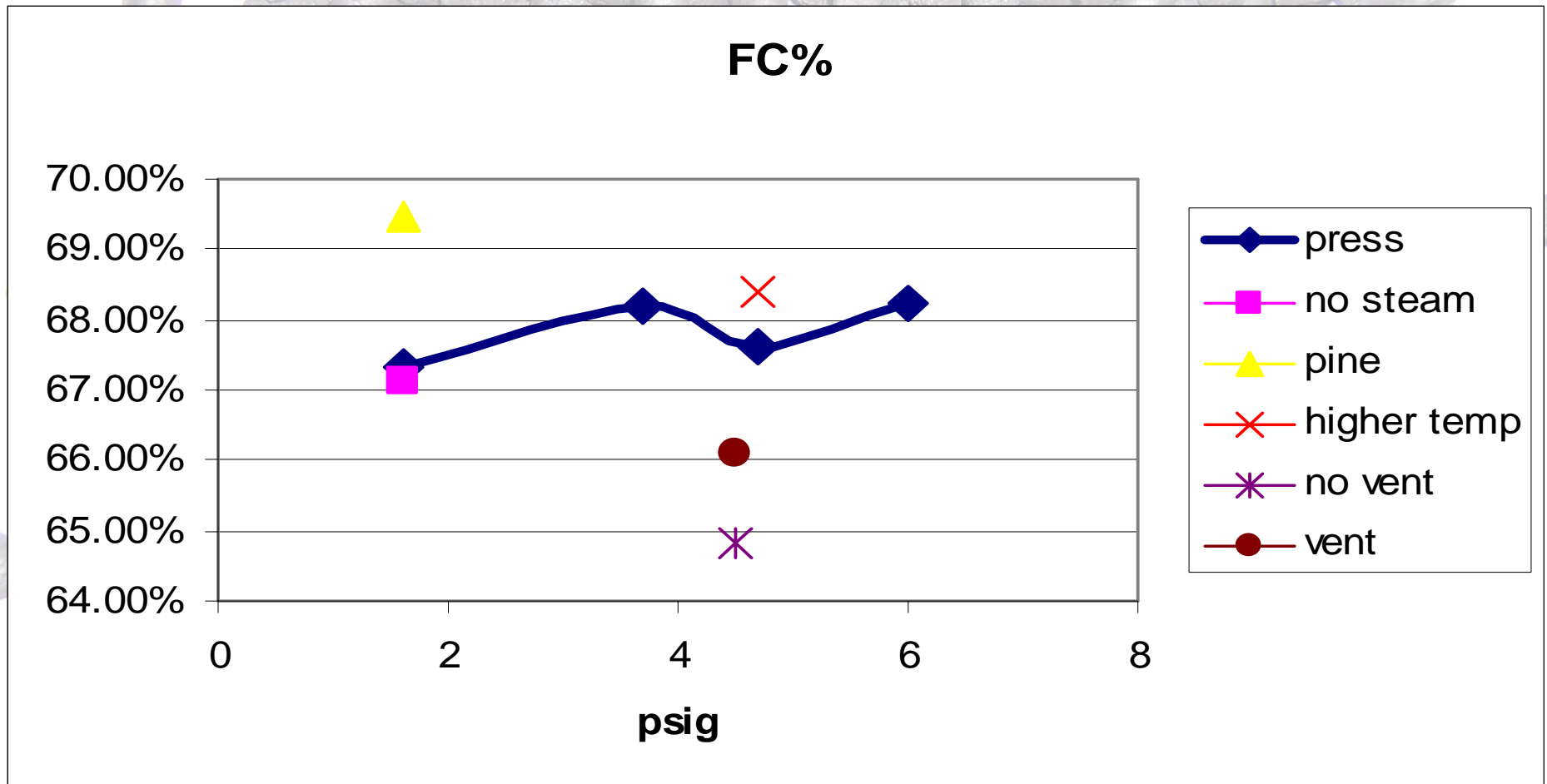
Sample Preparation Pilot Plant



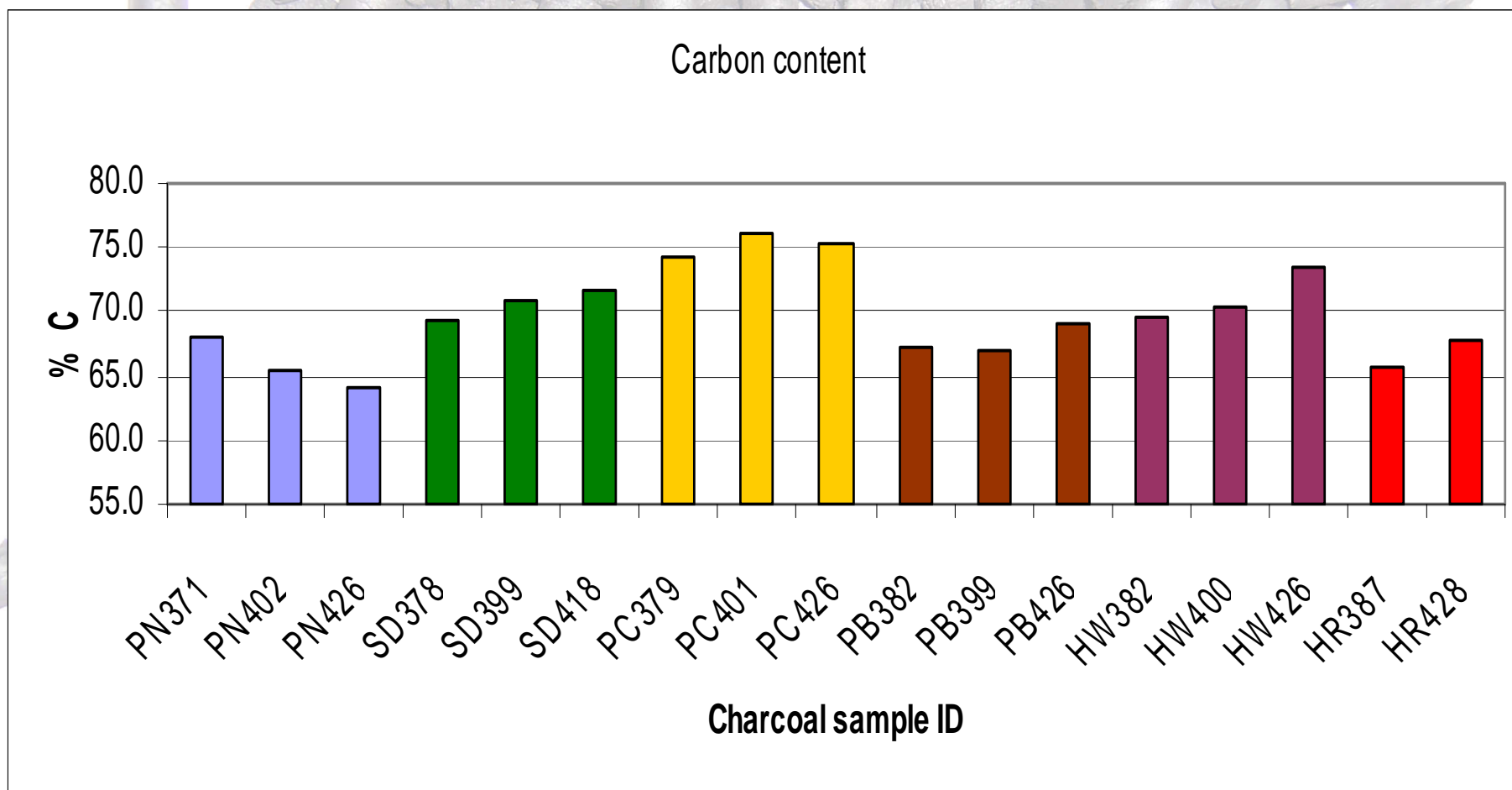
Volatle Content



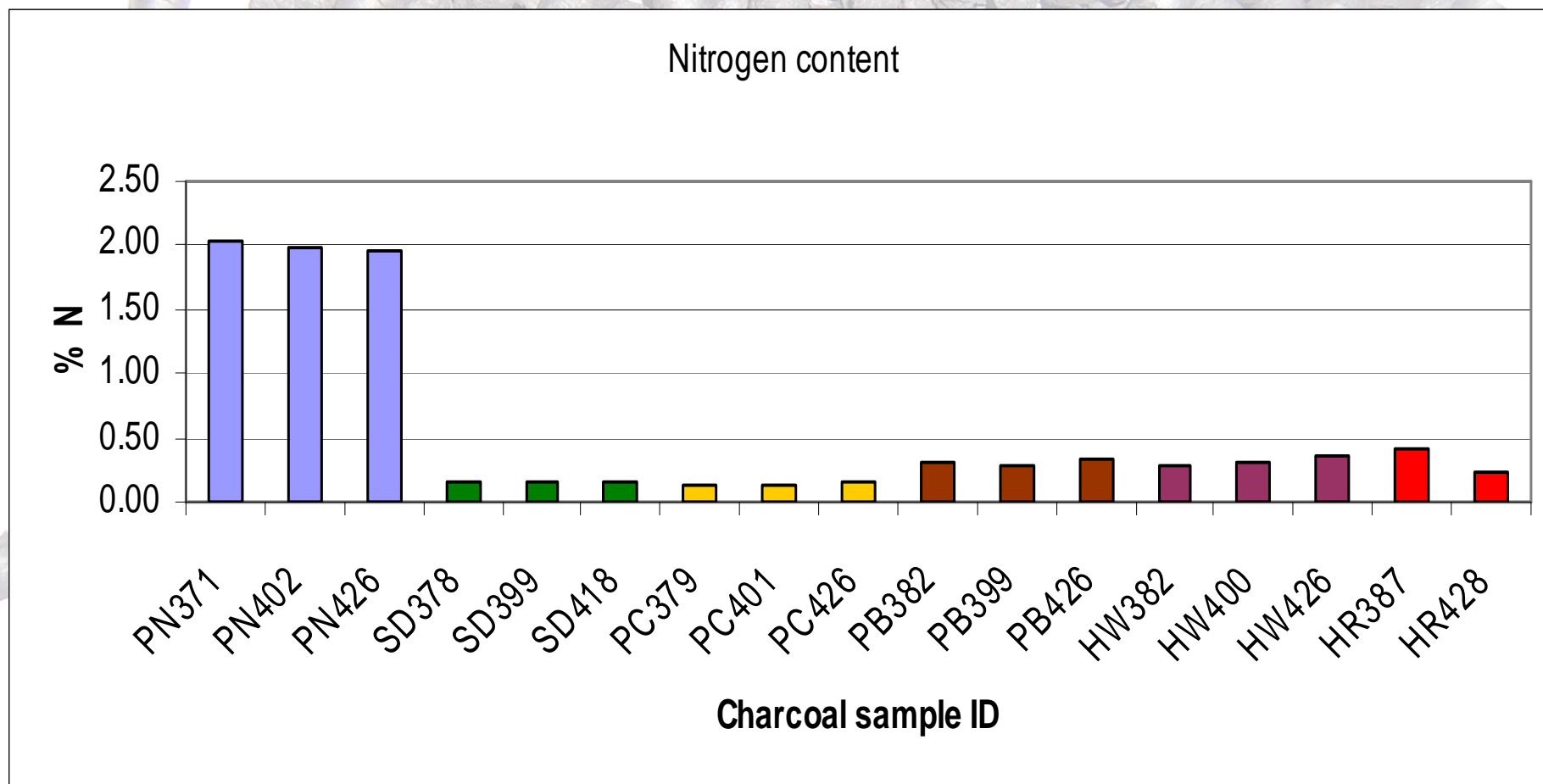
Fixed Carbon



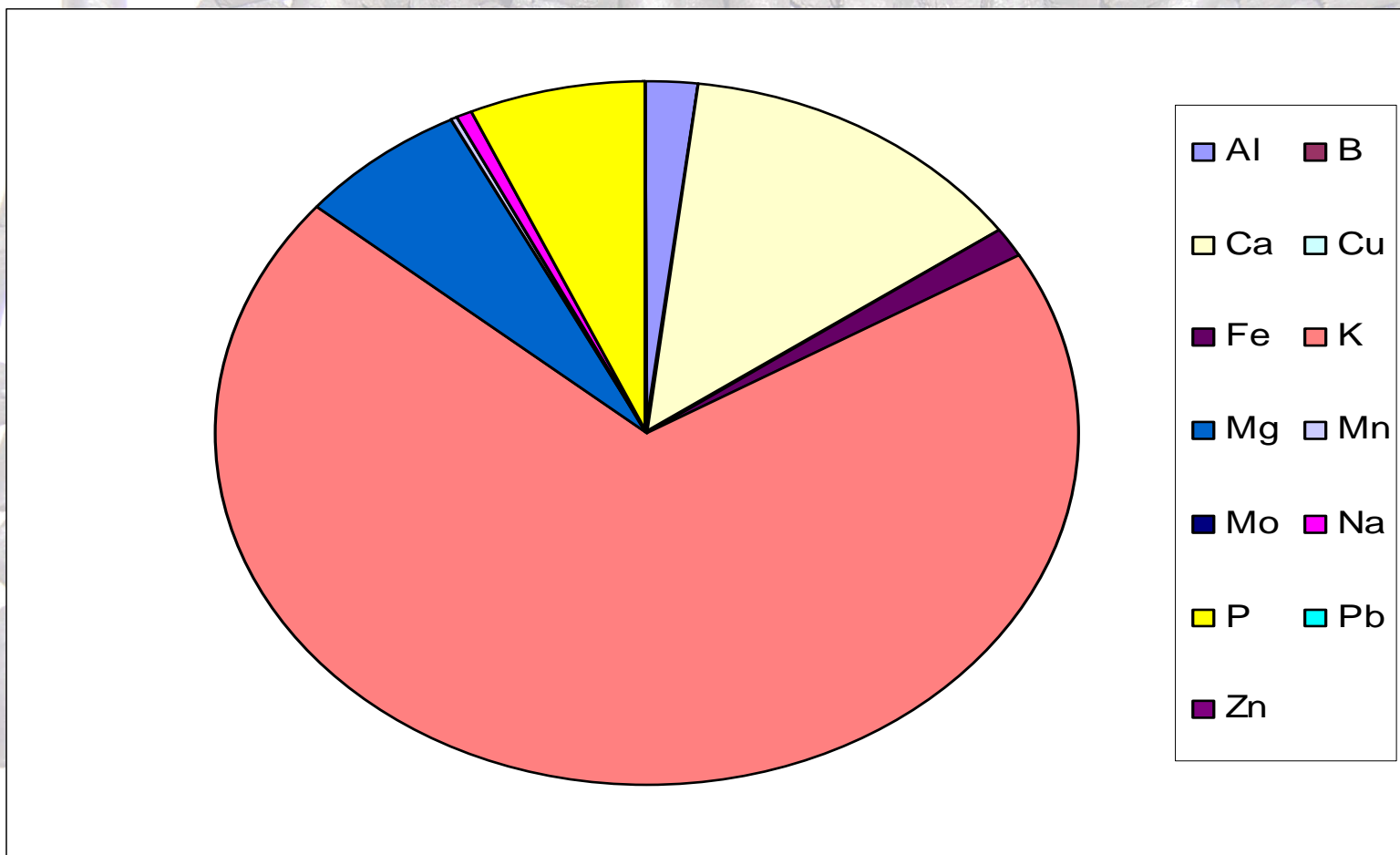
Total Nutrients



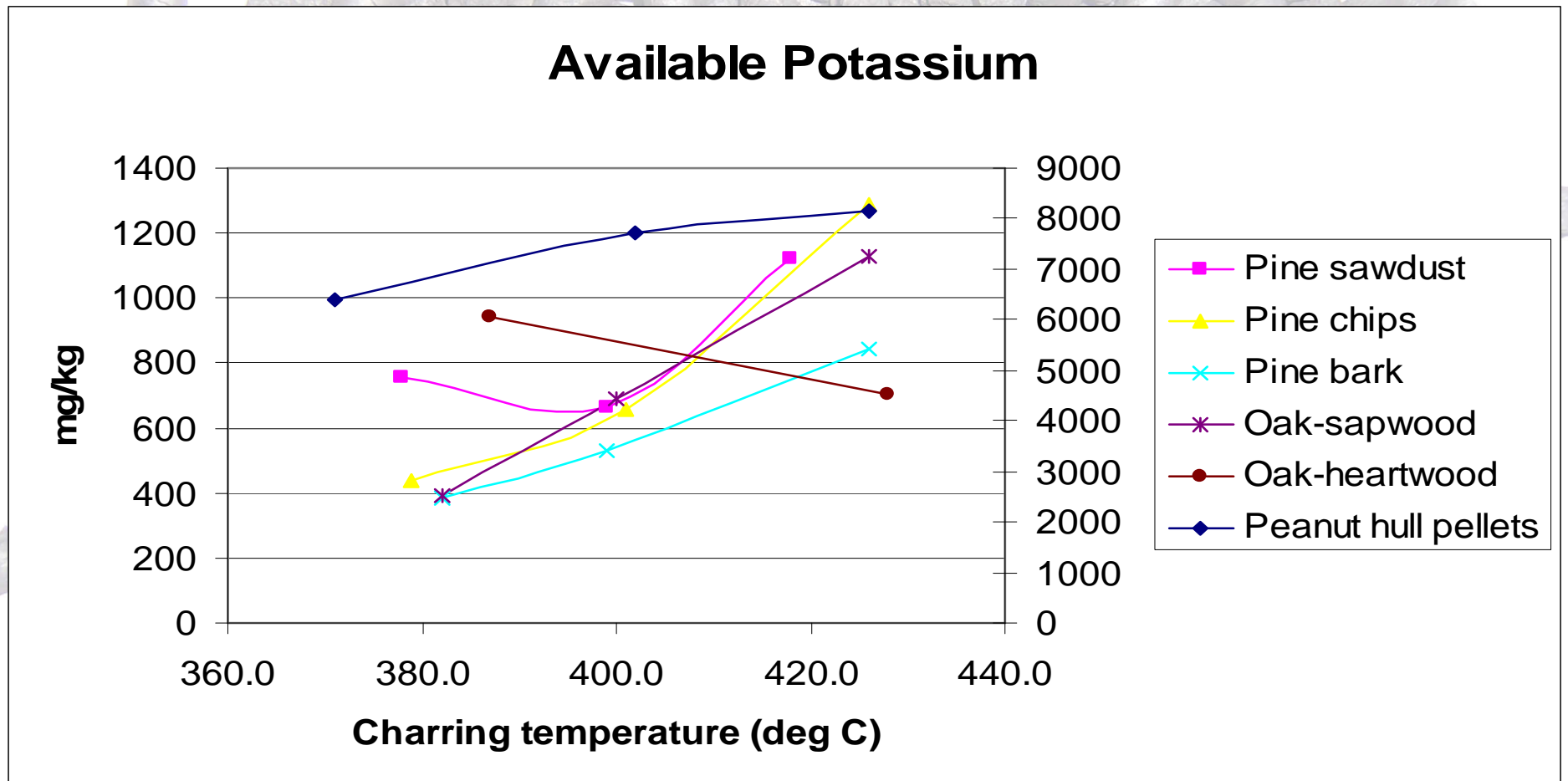
Total Nutrients



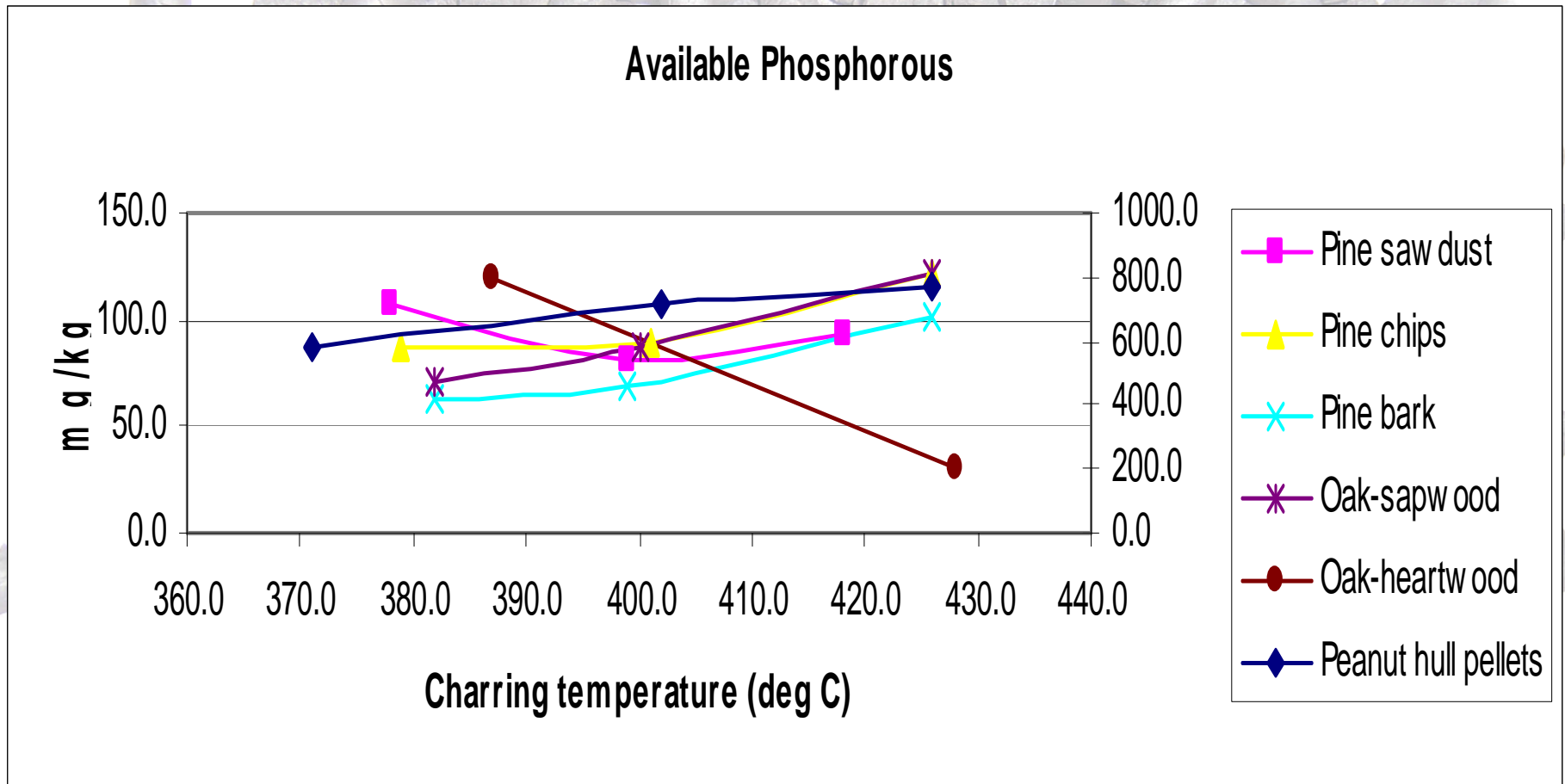
Total Nutrients



Available Nutrients

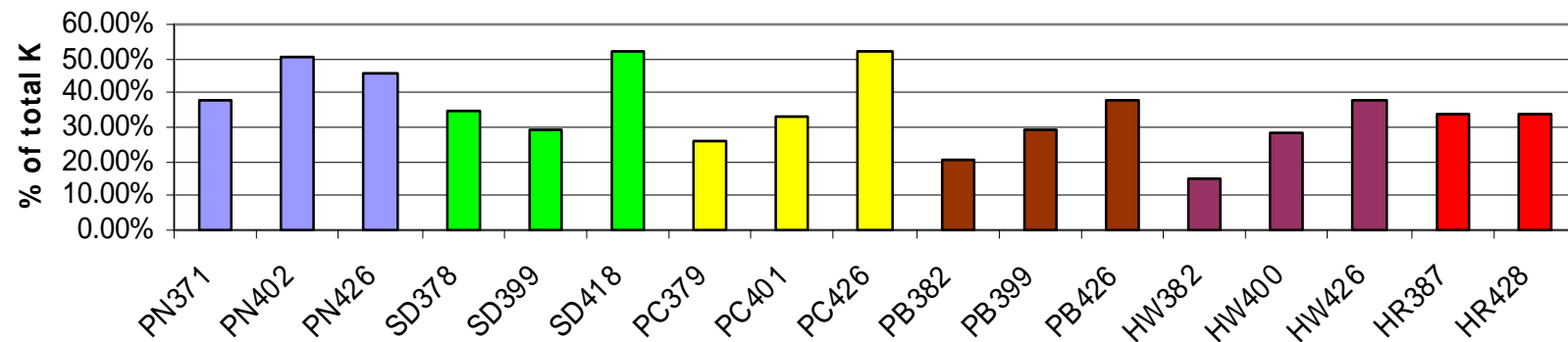


Available Nutrients

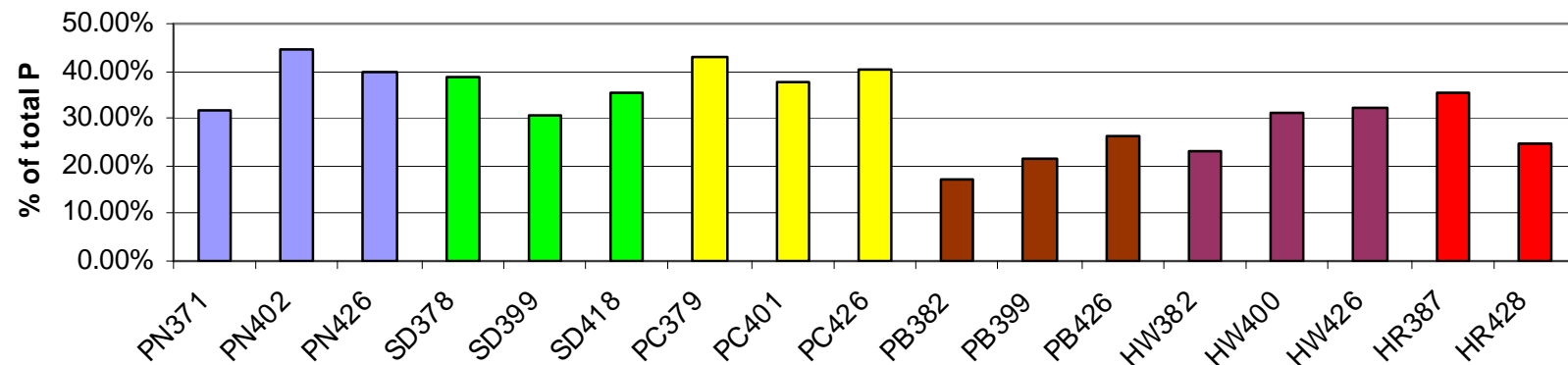


Available Nutrients

Available K as % of total

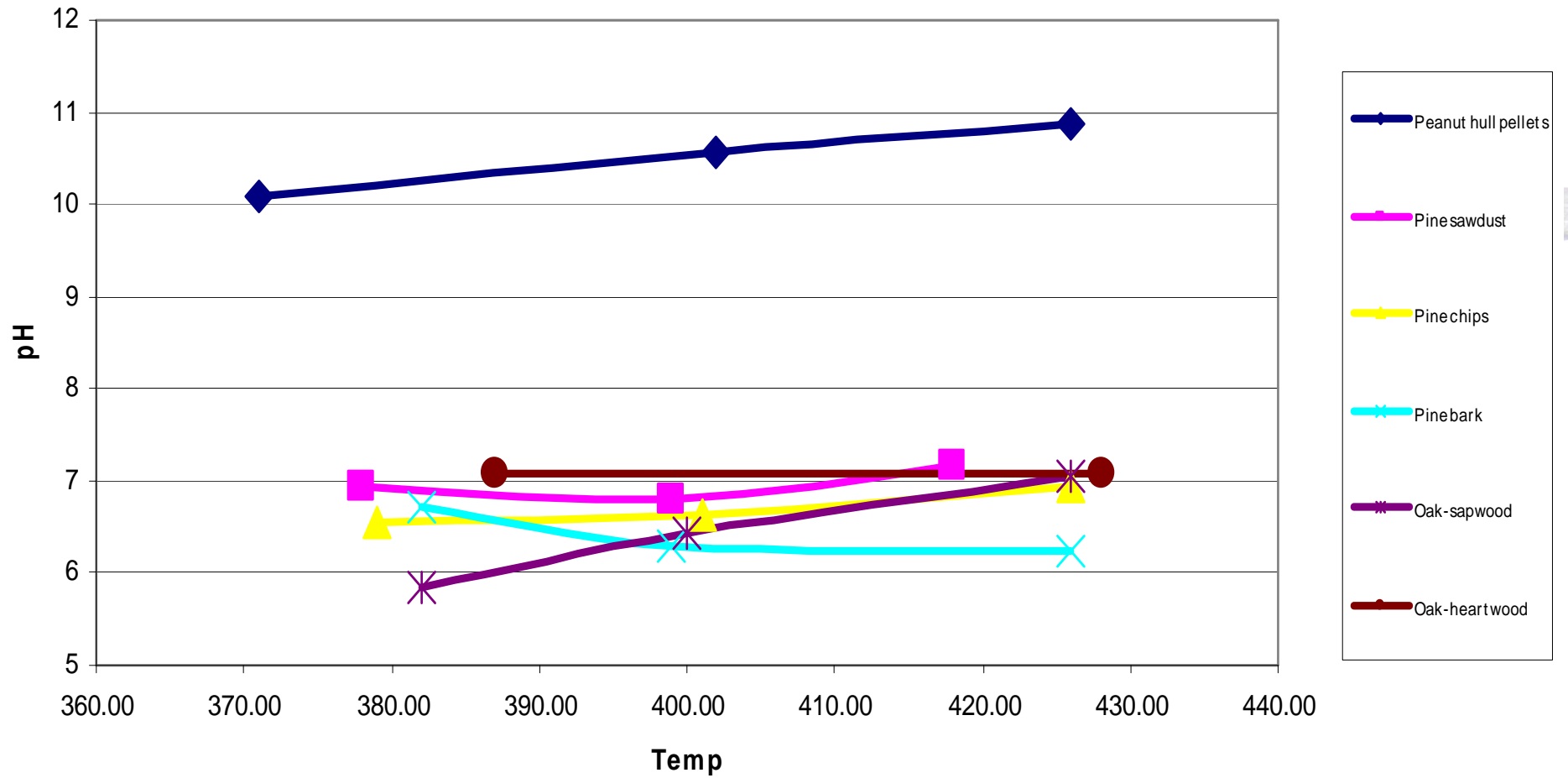


Available P as % of total



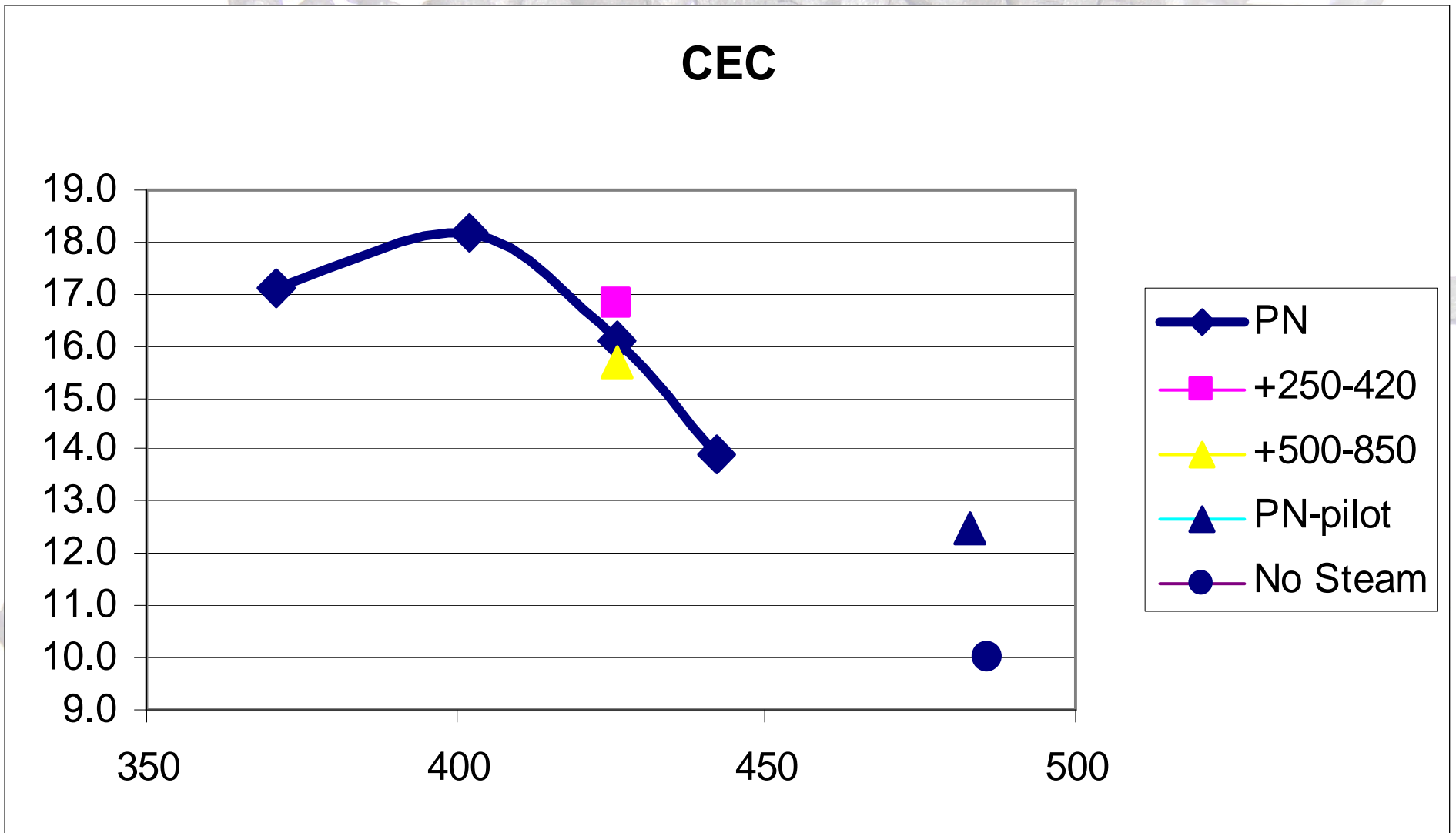
Char pH

Char pH



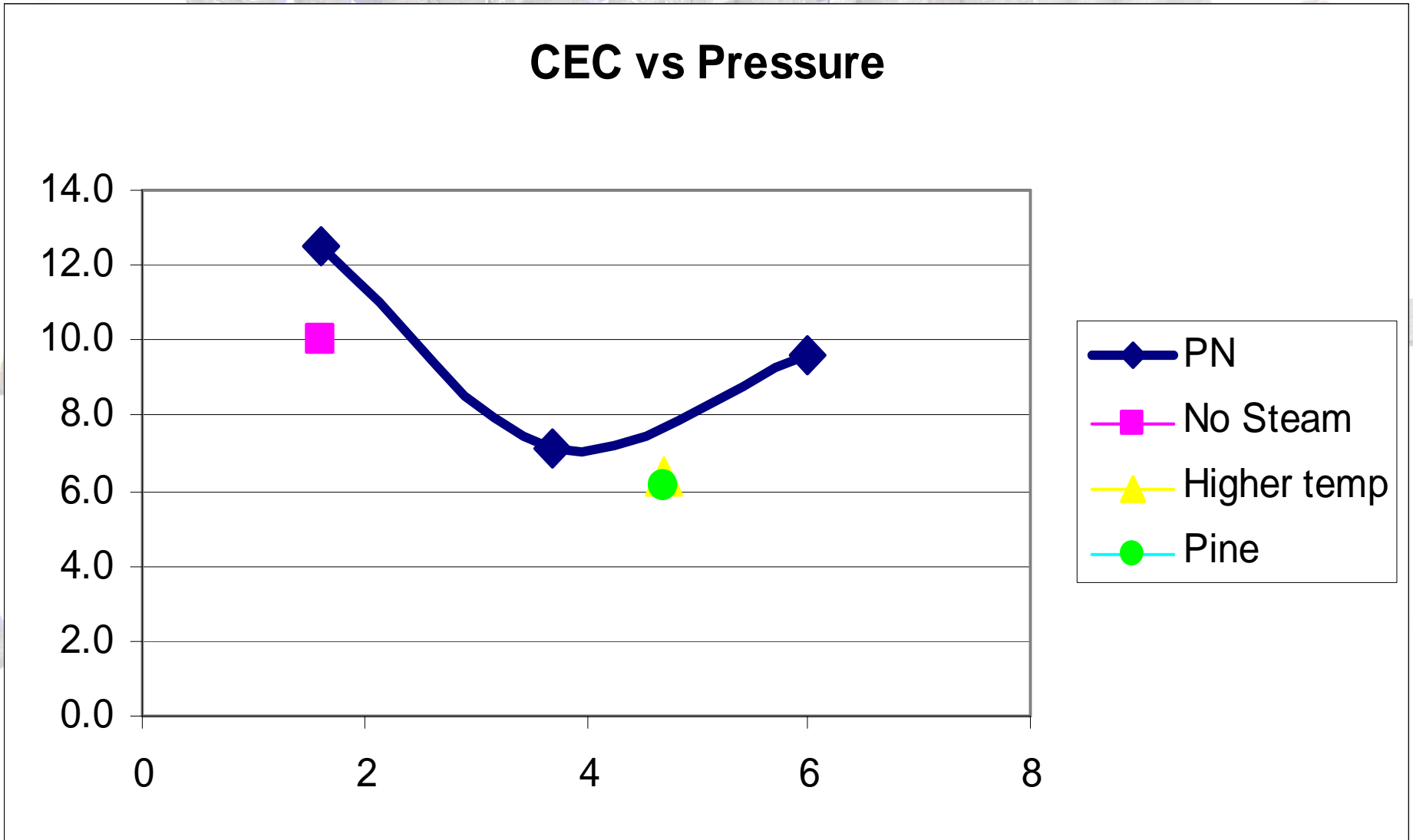
CEC

CEC



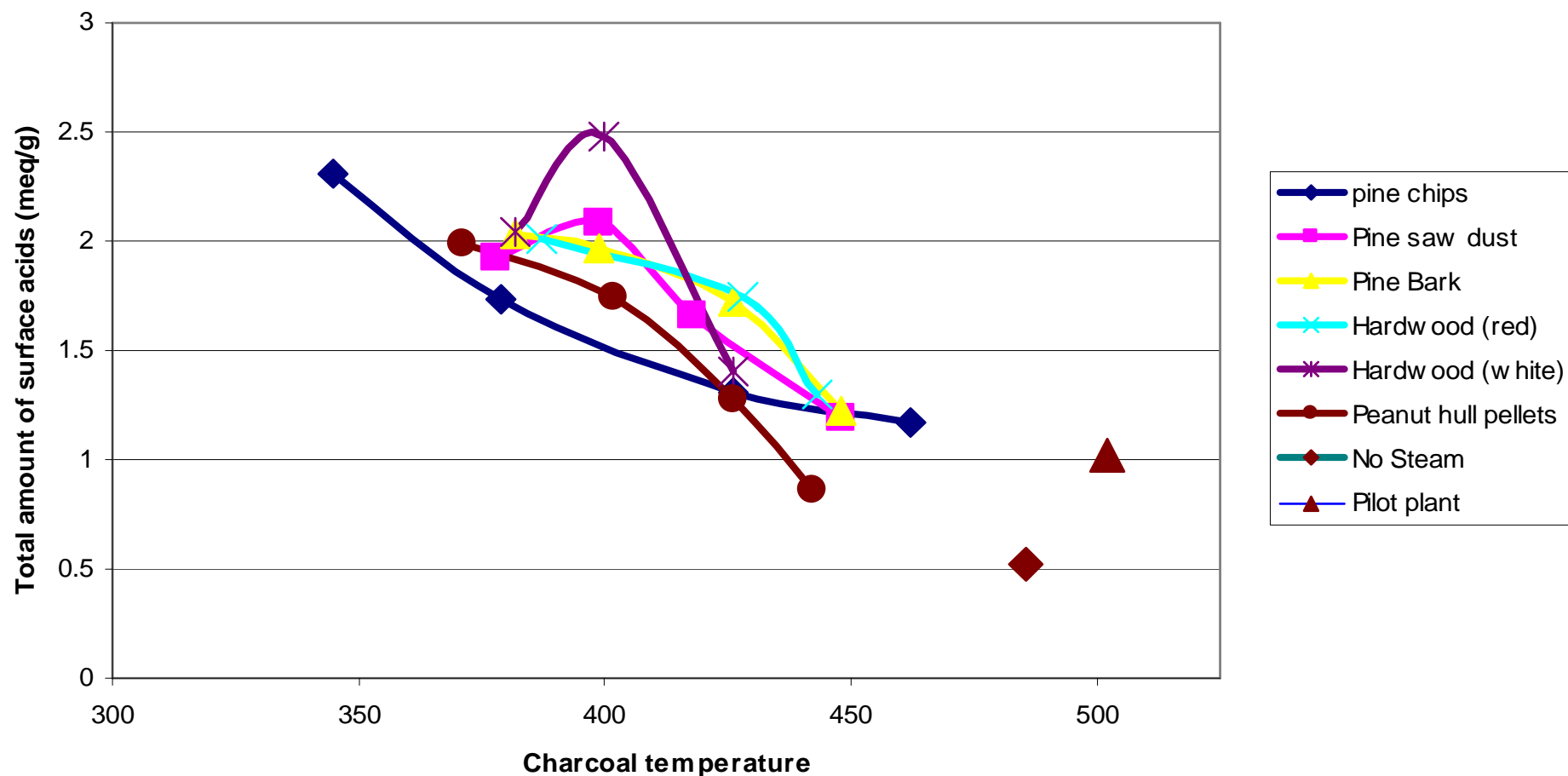
CEC

CEC vs Pressure



Surface Acid Concentration

Charcoal surface acids (Titration with NaOH)





Char Production

Need for quick test for QA/QC
Use of steam as a sweep gas
shows increases in CEC and
surface acid formation