

SCIREN FEIJOA

Experiment guide



AIM

to test the difference between cooking whole fruit vs pulp-only when trying to create a jelly/jam



HYPOTHESIS

whole fruit will create a more sour, bitter, less pleasant tasting jam than pulp only



MATERIALS

fresh feijoa fruits
a heavy based saucepan to fit fruit
knife
water
sugar
stove
clean, sterilised jars
sieve
muslin/cheesecloth fabric
spoon

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BACKGROUND

Feijoa (*Acca sellowiana*) is a tree that produces fruit similar to guava, native to Brazil. In South Australia, the fruit is common to many gardens, but not so commonly eaten. For some it's a massive sweet treat!

The lovely fruity aroma is attributed to several compounds (molecules) including methyl benzoate, ethyl butanoate. This last one is interesting - because some people claim they don't like the smell of feijoa - being a bit...well, vomity! Butanoate is a chemical compound also found in vomit - getting its name from the rotting butter compound butanoic acid! See...BUTter BUTanoate...The first chemical mentioned, gives the lovely fruity smell that is so yummy (desirable!).

Another important compound is pectin. Pectin doesn't add to the flavour though. It's actually a type of flavourless sugar that doesn't breakdown well in the human body. This is good as a dietary fibre - it will help you poop! In terms of making jam - it's great because it gives jam that lovely wibbly wobbly jelly texture.

What we want to know is - is the pectin in the skin or the pulp?!

I've used some peer-reviewed science papers to help me explain this. Read up on them if you want to learn more!

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METHOD

Don't bother weighing the fruit (the important volume will come later after straining the fruit off the juice)

Half the amount of fruit and set one half for the pulp only experiment

With the other half, trim the tops, chop the fruit and place in the saucepan

Fill with enough water to cover the fruit

Keep the lid on in you can

Bring to the boil on medium heat

Reduce heat and simmer 45min or until fruit is soft

Strain the liquid into a sieve to remove the fruit

IMPORTANT!! keep the juice! It might look cloudy but it's ok. Don't squish the fruit when you strain to keep it as clear as possible.

Wash the saucepan ready for the next step

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METHOD

Now we need to know how much liquid we have (volume)

For each cup of liquid, add 1/2 cup sugar

1 cup of sugar = approximately 225g
therefore, 1/2 cup = roughly 112g

So
multiply your number of cups of liquid by 112g

for example:
3.5 cups x 112g
392 g sugar

I have cups of liquid

so I need x 112 = g sugar

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METHOD

Bring sugar and fruit liquid to the boil in the clean saucepan

Keep this bubbling at a rapid boil until you can do that spoon trick (see video!) or it starts to set on a cool plate. This can take awhile.

Pour into clean jars and seal

Let it cool overnight

Repeat whole experiment with scooped pulp only

Make sure you label your jars so you know which sample is which!

Compare when cooled

RESULTS

Write your observations and notes here

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CONCLUSION

Whole fruit:

Pulp only:

Hypothesis was supported / rejected

What was unexpected?

What would you change next time?

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REFERENCES

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