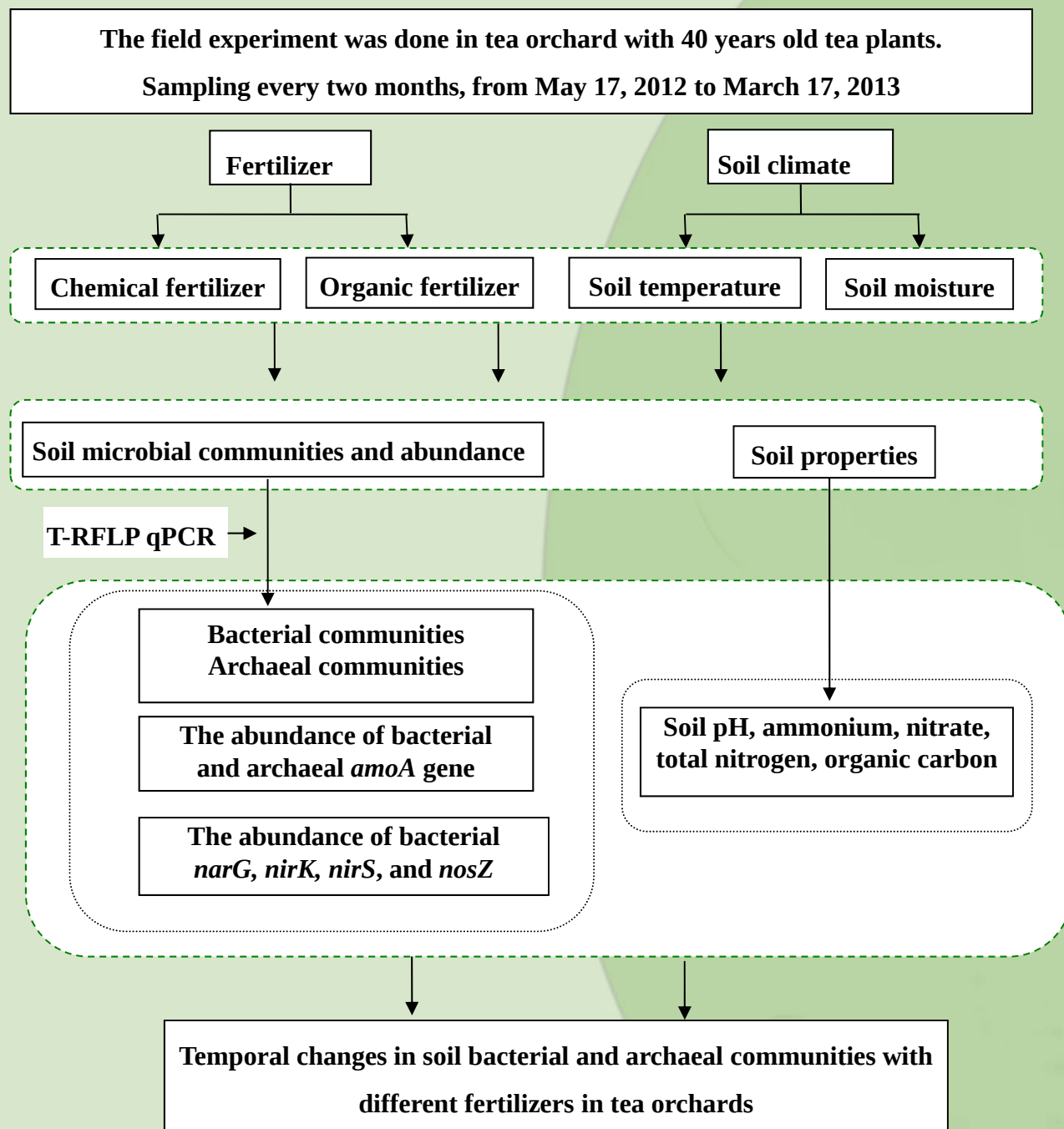


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TEMPORAL CHANGES IN SOIL BACTERIAL AND ARCHAEAL COMMUNITIES WITH DIFFERENT FERTILIZERS IN TEA ORCHARDS

Key words: Tea orchard, Temporal changes, Fertilizer,
Bacterial and archaeal community, Functional genes

RESEARCH SUMMARY



RESULTS

- Bacterial and archaeal community structures varied with time and fertilization due to changes in the relative abundance of dominant T-RFs.
- Total bacteria, total archaea, and archaeal *amoA* were less abundant in July. The bacterial *amoA* and denitrifying genes were less abundant in September, except for the *nirK* gene.
- The OF treatment increased the abundance of the observed genes, while the CF treatment had little influence on them.
- Soil temperature significantly affected the bacterial and archaeal community structures.
- Soil moisture was significantly correlated with the abundance of denitrifying genes.
- Soil organic carbon was the most important factor and was significantly correlated with the abundance of the detected genes, except for the *nirK* gene.

CONCLUSION

- This study demonstrated the effects of both temporal alteration and organic fertilizer on the microbial community structure and the abundance of genes involved in the nitrogen cycle.

