WEIRD SCIENCE

The ruthless soya

THE soya bean displays a ruthless streak when it comes to tiny organisms that live in its roots.

The plant punishes bacteria that fail to provide it with nitrogen, according to researchers from California and Edinburgh University.

They believe the findings may help to explain how co-operative relationships between plants and bacteria have persisted over time.

Symbiotic relationships are commonplace in the plant kingdom, with organisms benefiting from living in close proximity by pooling their resources.

However, the team, which includes Stuart West from Edinburgh's Institute of Cell, Animal and Population Biology, have discovered in the soya bean study what stops one partner from becoming selfish and only taking from the relationship.

They studied rhizobial bacteria, which live in specialised nodules on the roots of their soya bean landlords. Normally, these bacteria provide "rent" in the form of energy-rich nitrogen and in return are rewarded with nutrients.

However, it now transpires that the plant can also cut off oxygen to any bacteria not supplying sufficient nitrogen, effectively suffocating the tiny tenants.