



Biology: uniformity and diversity

Reclaiming land for a tropical forest

Dr Lee Su See

It's difficult to reclaim this land, because it's basically nearly all sand. There's hardly any organic matter here. And it's a very bright place. The sunshine is very intense. It gets very hot. There's hardly any water around. And also there are traces of toxic metals in the soil.

Narrator

Yet tropical trees might still be persuaded to grow here once again. Su See's on the case with a ground-breaking experiment. It relies on the fact that at least something's tough enough to grow here. Acacia Mangium.

Dr Lee Su See

Our aim here is to establish a dipterocarp plantation in the future. But, to do that we need to first improve the site and we're doing that by planting these Acacia Mangium, which will act as a nurse species, where it will provide some shade for the young dipterocarp seedlings and also organic matter.

Narrator

When the seedlings have become trees, the scientists will take out rows and plant dipterocarps between them. The acacia's are working in partnership with mycorrhizal Fungi. Mycorrhizas can protect plants from metal toxicity. But it's not just about survival of individual trees. But establishing an entirely new woodwide web.

Dr Lee Su See

Mycorrhizas are absolutely essential in such degraded sites. Because then the plant can get access to water and nutrients, which otherwise it would not be able to obtain. And especially on such sites where phosphorous would be a limiting factor. That's where the mycorrhizas play a very very important role.

Narrator

But can they help scientist to jump-start a forest?

Dr Lee Su See

Well I mean if you try to plant dipterocarps on a degraded site without all the improvements that we are trying to put in here. I am quite sure they will all perish and it will be a total failure. But once you establish the suitable conditions, then there is a very very good chance that it will work.