TIMESONLINE

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Iron-fed plankton can seal carbon for a century in ocean depths

Lewis Smith, Environment Reporter

Graphic: seeding the oceans

Plankton fed with iron will absorb carbon dioxide to prevent it acting as a greenhouse gas, scientists have shown.

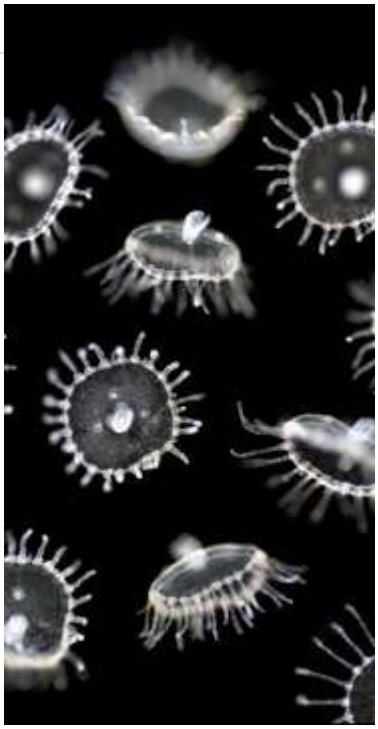
Measurements taken in the Southern Ocean confirmed that so-called iron fertilisation would help plankton to grow and thus take in more carbon. Indeed, they took the carbon so deep under the water that it would be locked away for a century.

The results, achieved by a team from the National Oceanography Centre in Southampton, were hailed by rival researchers as a significant step in the search for ways to reduce carbon in the atmosphere. But hopes that the technique could be developed commercially to counteract global warming took a blow because far less carbon was taken out of circulation than some experts had predicted.

Iron fertilisation is one of several schemes that have been put forward to try to slow global warming. The theory is that if tonnes of iron particles are dropped into the ocean, they would stimulate the growth of plankton that would remove carbon from the atmosphere.

The theory was put to the test around the Crozet islands by an international team led by Professor Raymond Pollard. The area was chosen because to the north of the islands volcanic rocks offer a natural supply of iron — and a wealth of plankton — while to the south, there is far less iron — and far less plankton.

Iron was dropped to the south, the plankton flourished and spread as hoped and when they died, the carbon they had absorbed went with them more than 200m down into the water, where it was locked in.



(Dr Richard Kirby/Royal Society)

Two to three times more carbon was absorbed by plankton eating the iron than in other areas

The research, whose results are published in the journal Nature, was the first to demonstrate that extra iron in the sea could take carbon out of circulation for at least a century — the time it would take for the currents to lift the deepest water into the island shallows where the carbon would be released.

But the team added that the result still fell 15 to 50 times short of some expectations, and that that would have significant implications for plans to use the technique to mitigate the effects of climate change.