CHASING PLANKTON UNDER THE SEA ICE

What is life like for plankton and fish under the sea ice in the Arctic? That is what Serdar Sakinan of Wageningen Marine Research is investigating. 'These measurements will let us improve our predictions of the influence of the climate on food chains.'

PHOTO: DELPHIN RUCHE

Sakinan uses nets under the ice to collect fish and zooplankton (tiny creatures such as copepods and arrow worms). Sakinan: 'The Arctic Ocean is covered by a thick layer of sea ice for most of the year. That means there is not much light, whereas light is always necessary for growth.'
The algae just under the sea ice flourish again in the spring when there is more light. They form an important food source for the entire food chain. Little amphipods that consume the algae get eaten by fish, which in turn are eaten by predators such as polar bears and seals. Sakinan: 'We collect plankton and fish in order to better understand how the ecosystem works and what contribution these creatures make to the carbon cycle in the Arctic Ocean.'

DARK

Zooplankton are sensitive to light. In lower latitudes, they come up at night and sink to the depths during the day. 'When we arrived in February, it was permanently dark,' says Sakinan. 'From March onwards it has gradually become lighter and I was curious to see how the plankton would behave in the different day-night patterns of the Arctic.'
Sakinan is measuring this with acoustic signals. Sound pulses are sent into the water and the echoes are measured. 'Zooplankton are incredibly tiny but they are present in large numbers and they produce weak but measurable echoes.' As Sakinan had expected, the plankton here too sank deeper in response to light. 'It was nice to see that our acoustic measurements worked because when we hauled up the nets, they were full of plankton.' **TL**

On pages 22 and 23, you will find a long interview with Sakinan about his experiences in the Arctic.