forestry, fisheries & the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

BSASA
BIVALVE SHELLFISH FARMERS' ASSOCIATION OF SOUTH AFRICA

UK International Development
Partnership | Progress | Prosperity

South African Kelp Farming Project (Phase 2 Feasibility study)

Standard Operating Procedure (SOP): Transporting spools from Nursery to Weaning

SOP number: BSASA-8	**Date:** 1 March 2025
Compiled by: The Project Manager (Dr Lizeth Botes) on behalf of BSASA	**Version:** 1 **Review date:** to be adapted and revised by industry

Introduction

The overall goal of the South African Kelp Farming Project (SA KFP) was to gather, analyse and disseminate evidence and research results to a broad stakeholder base, including the existing aquaculture industry and new potential entrants, to lay the foundations toward building a sustainable Kelp Aquaculture Industry in SA and the region.

One of the project objectives was to investigate and tailor the hatchery and nursery methods for our local kelp species (based on the kelp farming manuals from elsewhere that are already publicly available and accessible on the SA KFP webpage), which can then be adapted and revised by industry to suit their own needs. Although the temporary set-ups that were used in Phase 2 of the SA KFP were aimed at achieving the short-term project objectives, it was the first successful attempt to cultivate *Macrocystis pyrifera*, *Ecklonia maxima* and *Laminaria pallida* in South Africa, and also the first successful attempt to cultivate *E. maxima* and *L. pallida* anywhere.

Purpose of SOP:

The purpose of this SOP is to provide a breakdown of steps required to transport the spools from the Nursery to Weaning once the sporophytes have reached ~1cm in length.

Preparations for Transporting:

1. Transporting the spools from the Nursery to Weaning and hanging the spools in Weaning will take place on the same day. Therefore, choose a cool day for transporting and a sea day with little wind when sea surface temperatures are ~15°C (to prevent the sporophytes from getting a temperature shock during out-planting).
2. Liaise with all involved during this process to ensure that all staff and the boat are available for all the activities to run smoothly.
3. Place the gel ice packs in the freezer the night before.
4. Fill the open spare tank with sea water the day before and set the chillers to cool the water to 15°C over night.
5. Depending on the amount of spools to be transported, get all the canisters, cooler boxes and thermometers ready.

Transport spools from Nursery to Weaning:

1. On the morning of the day when the spools will be transported, remove the gel ice packs from the freezer and place it at the bottom of the cooler bag/box below the false bottom. Do not put the frozen ice packs directly in contact with the canisters containing the spools.
   (If your cooler box does not have a false bottom,

make a false bottom from cardboard or a Styrofoam sheet)

2. Place the desired amount of canisters (corresponding to the amount of spools that will be out-planted) on the floor and fill 3 quarters of the way with 15°C seawater from the tank the spools are in.
3. Carefully remove the spools one by one from the tank and place them into the canisters.
4. Top the canisters up with the 15°C seawater from the spare tank.
5. To prevent the spools from moving in the canister, either add pieces of Styrofoam as per the picture below, or alternatively a Styrofoam ring can be made and pushed down from the top to keep the spools in place.

6. Once all the spools have been secured in the canisters, place the lids on top and tighten it so that the water does not leak out.
7. Place a thermometer in each bag which can be used to record the air temperature in the cooler and the water temperature in the canisters during transit and while on the boat. Zip the cooler bag closed.
8. Pack all the cooler bags tightly into the vehicle which will be used to transport the spools to the jetty where the boat will be waiting. Drive carefully to prevent the coolers from falling over.

Cleaning workplace:

1. Clean the workplace, coolers and icepacks once all the spools were hung in Weaning (SOP10).
2. Pack away all items that were used.