Spores are produced during the late summer on the underside of the frond in many fern species. Occasionally they are in separate, fertile fronds that look less leafy than the normal ones.

You can tell if a fern is producing spores as it often dusts its own leaves or any cobwebs etc., with a fine, brown powder. These are the spores which can be collected by laying a frond on white paper and leaving for a day or so to fully shed.

For many people the best way to obtain the widest range of spores is to join a specialist society, such as the BPS, which organises a spore distribution based on donations from fellow members.

BPS members may chose up to 20 free packets from an extensive list. Spores can also be obtained from BPS stands at many national gardening shows.

For further information please visit the BPS website at [www.ebps.org.uk](http://www.ebps.org.uk)
**STEP 1 – Prepare the sowing pots**

Clean a suitable sowing container  
Fill with compost to 1-3 cm below rim  
Water and sterilise  
Allow to cool

Suitable containers include small plastic pots, translucent plastic boxes or cut down milk bottles. Ensure they have drainage holes. Ferns are not generally fussy as to compost – however, peat based is ideal and coir is often not suitable. Do not add any fertiliser at this stage. Sterilise by placing kitchen towel over the tray and pouring boiling water over to thoroughly soak the compost. Allow to cool completely before sowing. Remove the kitchen towel immediately prior to sowing. This will remove any stray weed spores that may have landed while the tray was cooling.

**STEP 2 – Sow spores and monitor**

Sprinkle spores over surface of compost  
Place in clean, sealable plastic bag  
Label and keep out of direct sunlight  
Look for the formation of prothalli (see pictures)  
Look for the formation of small fern plants  
Little intervention should be needed at this stage

Thin and even sowing is ideal. Spores are VERY small and dust-like – a small speck goes a long way. After sowing each pan, place in a sealable plastic bag and wash your hands to reduce cross-contamination. Spores do not grow directly into ferns. Initially prothalli are formed. They may form after a few weeks or a few months or even a year after sowing. Be patient! Eventually the prothalli will be replaced by small fern plants. This should happen naturally, but may take some time. Something that may speed this process up is spraying with sterilised water if the pots look dry. Something that slows it down is the prothalli being too crowded – try taking out some and hence making holes in the blanket of growth if the spores have been sown thickly.

**STEP 3 – Patch out small fern plants**

Clean suitable small pots/modules  
Fill with compost  
Water and allow to drain  
Prick out individual ferns, or clumps  
Place in clean, sealable plastic bag  
Label and keep out of direct sunlight

Ideally, patch out when the fern plants have several leaves and are clearly growing. Patching out when very small is possible, but tiny fern plants will need delicate handling and aftercare. The same composts can be used as for sowing. Again, additional fertiliser is not normally required. Choose pots or modules suitable to the size of the plants and of the bags you intend to use. Once potted and sealed, the little fern plants are again fairly trouble free and should be left to grow. They can be slow and it may be up to a year before you will want to pot them on again.

**STEP 4 – Pot up fern plants**

Wait until small plants are filling their pots  
Pot up the small plugs into larger pots  
Label and keep out of direct sunlight  
Partially cover and mist if necessary to lessen shock of removal from plastic bag  
Grow on and plant out once established

This is one of the trickiest stages of fern spore growing. This is because the fern plants have been in their own microclimate in the plastic bag since sowing and it’s a shock to be introduced to the outside world. Two methods are possible. Either open the bags gradually, allowing more and more air flow, eventually cutting off the top of the bag. After a week or two of acclimatisation, pot them up, water and place in a shady frame. Alternatively, you may pot up the plants and acclimatise them after potting by giving them some temporary cover and misting if they show signs of wilting, again over a week or two. Whatever method you chose, some losses are likely, but many will survive.