

(but not polymer gels) and mulches were investigated to see whether they might improve water management *within* containers; i.e., rewetting, redistribution, and retention. A standardised “pour through” test for water retention efficacy and longevity of wetters over 6 months was developed using 9-cm pots. Proprietary liquid and granular wetting agents were compared in both 100% peat and peat-free Sylvamix — a proprietary growing medium based on treated forestry residues. Sylvamix was easier to rewet when dry than peat, although being more open, retained less water once hydrated. Wetters were more beneficial for peat. The activity of some newer formulations including Saturaid Granular, Suffusion Liquid, and Psimatrix Liquid remained very good after 6 months compared to some other products including some “organic” ones based on plant extracts.

Addition of a wetter had little effect on water loss through evaporation from the growing medium surface. A 15 to 20 mm depth of a coarse mulch such as Cocoshell or Cambark 100 reduced evaporation to half that of the control (Fig. 5). They were more effective than finer materials such as Biotop (chopped *Miscanthus*) or Enviroguard (pelleted paper waste), which maintained more capillarity with the growing medium.

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Facing the Challenge of Wild Flower Production®

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INTRODUCTION

The nursery was started in 1986 with the help of a government enterprise grant. For this I needed to fulfil certain requirements including 6 months unemployment and having £1000 in the bank. A bank loan was also obtained.

THE NATURE OF THE PRODUCT

A plant is considered a wild native of the U.K. if it has been present since the last ice age. One dictionary definition is “a flowering plant that grows in a natural, uncultivated state/the flower of such a plant.” The Wild Flower Society says “A species unplanted and uncultivated.” These days most of the general public believe a wild flower is anything not in a garden that you can see on a walk, and a recent book lists 50 species horticulturists would consider alien weeds. A campaign for “county flowers”, by the conservation charity Plantlife, lists eight species that have only arrived in the U.K. in the last 100 or so years.

There are other examples of confusion. The charity suggests dandelion for Cardiff — but which one? There are 229 different microspecies, of which *Taraxacum texelense*, is endemic to Lancashire, *T. cambricum* mostly in Wales. We grow *T. obliquum*, a coastal species. There are also 261 microspecies of hawkweeds, of which we grow seven, one of which is endemic to Cardiff and would be a better choice than dandelion. (Author’s note: Populations of hawkweeds and dandelions in U.K. only reproduce apomictically. Hence distinct local types occur which do not interbreed with neighbouring types.)

STARTING PRODUCTION

The initial production consisted of a list of 78 species, which did not appear to be available commercially as plants, but many were available as seed. They were chosen because they had well recognised names and were likely to appeal to the public.

A considerable proportion of the company's bank loan (£500) was used to purchase seed. This was seed sown in a cold glasshouse in October. By the following March only 23 species had germinated. By the summer the following species had germinated: black knapweed (*Centaurea nigra*), bird's-foot-trefoil (*Lotus corniculatus*), clary (*Salvia sclarea*), clustered bellflower (*Campanula glomerata*), foxglove (*Digitalis purpurea*), goldenrod (*Solidago* sp.), greater knapweed (*Centaurea scabiosa*), hedge bedstraw (*Galium mollugo*), herb Robert (*Geranium robertianum*), kidney vetch (*Anthyllis vulneraria*), lady's bedstraw (*Galium verum*), lady's mantle (*Alchemilla mollis*), musk mallow (*Malva moschata*), oxeye daisy (*Leucanthemum vulgare*), purple loose-strife (*Lythrum salicaria*), ragged robin (*Lychnis flos-cuculi*), red campion (*Silene dioica*), white campion (*Silene latifolia*), selfheal (*Prunella* sp.), small scabious (*Scabiosa columbaria*), wood avens, water avens, and yellow toadflax.

Among the plants we were surprised to find not germinating were:

Purple loosestrife (*Lythrum salicaria*). This showed very poor germination, even though it is a common plant in wet areas throughout the U.K. and produces large amounts of seed in the wild. In fact it has become a serious pest in Canada.

Bur-reed (*Sparganium erectum*). No germination. In the wild, the seed becomes heavy on the plant and the stem bends into the water where the seed is dispersed. At no time does it dry out. This provided us with the clue to developing the right germination treatment.

Butterbur (*Petasites hybridus*). No germination. This is less surprising as all British plants are male except for a few populations in Cumbria and north-west Yorkshire. There was no viable seed in our samples.

Norfolk or common reed (*Phragmites australis*). No germination. Two companies selling reed in 1986 claimed a trade secret treatment to break complicated dormancy. I was offered this secret for £120,000. This plant is found both sides of the Equator throughout the temperate zones. Usually it forms vast stands and flowers profusely and regularly at the end of August. It is wind pollinated.

HELPING CUSTOMERS WITH SPECIES SELECTION

Customers frequently ask questions such as:

- What can I plant?
- What will grow here?
- How many do I need?
- What size do the plants reach?
- When should we plant?
- Do you have local provenance?

We advise that decisions on what to plant should be based on historical botanical records for the site, surveys of surrounding vegetation, and a knowledge of the future management and use of the site.

Some species show a distinct variation between ecological zones, for example, northern provenances of *Succisa pratensis* flower earlier and are taller than those from the south of the U.K.