

### 3.2.1 The plant types for use in vertical greening systems

Most of the living walls seen today are 'ornamental'. Their prime function is to look good. Therefore the majority of plants used in living walls are ornamentals. Living walls are starting to be used for urban agriculture projects. Edible plants (herbs, fruit, vegetables) can be planted [\[1\]](#).

#### 3.2.1.1 Bulbs

In general plant smaller varieties that grow well in containers, and come back year after year (eg. *Allium schoenoprasum*, *Galanthus nivalis*). Space will be restricted in some living wall systems and the bulbs can become crowded. They will also be in a consistently moist environment and can rot.

#### 3.2.1.2 Annuals

Annuals complete their entire life cycle in a single season (eg. *Viola tricolour*). They can be used to provide seasonal displays within a living wall system. There may be additional costs involved with maintenance: annuals will need to be replaced when they no longer look their best.

#### 3.2.1.3 Perennials

Perennials persist for many growing seasons (eg. *Carex morrowii*, *Geranium endressii*, *Hosta* spp.). They can be deciduous or evergreen and are by far the most widespread type of plants used in living walls.

#### 3.2.1.4 Shrubs

Shrubs are woody plants, smaller than trees, and have several main stems arising from the base (eg. *Euonymus fortunei*, *Erica carnea*, *Potentilla fruticosa*). They can be deciduous or evergreen. Younger plants are more sensitive to the cold than mature ones. By the very nature of living walls, the plants are usually very young when planted (9 cm is usual with many living wall systems).

#### 3.2.1.5 Climbers

Climbers climb up trees and tall structures by different adaptive means:

- Self-clinging plants with aerial rootlets, e.g. *Hedera helix*
- Twining plants/vines where the main stem twines around a support, e.g. *Trachelospermum jasminoides*
- Tendrils – a tendril will entwine itself around a support (a stem of another plant for example), e.g. *Clematis* 'Bill MacKenzie'

Climbers can be deciduous or evergreen. Their growth can be vigorous, over-running other plants in the living wall, possibly resulting in additional maintenance (and therefore cost).

#### 3.2.1.6 Herbs

Herbs are any plant with leaves, seeds, or flowers used for flavouring, food, medicine, or perfume. They can be annuals or herbaceous perennials, evergreen or deciduous (e.g. *Artemisia dracunculus*, *Petroselinum crispum*, *Thymus vulgaris*). If using edible plants in living walls as an urban agriculture scheme, be aware of harvesting times of individual plants for maintenance management.

#### 3.2.1.7 Fruit

Smaller fruit and berries which require little space in which to grow, such as strawberries (*Fragaria* spp), are successful in living walls. Blueberries (*Vaccinium corymbosum*), and cranberries (*Vaccinium oxycoccos*) both require acid pH [\[2\]](#).

#### 3.2.1.8 Vegetables

Most vegetables are annuals. Due to restrictive space of containers in living walls, some plants are better suited to this type of urban agriculture than other. Tomatoes, lettuces, cucumbers and even celery work well [\[3\]](#).

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