

PHOTOS: Cassian Schmidt

MIXED AND MATCHED

Block planting is giving way to the new trend for mixed planting. **Noel Kingsbury** looks at the new annual and perennial mixtures appearing in public and private spaces →



Photo Kieran Bradshaw

Noel Kingsbury

Noel Kingsbury discusses mixed planting systems in *Planting the Big Picture* (with Piet Oudolf), Timber Press, to be published Spring 2013. Noel manages his own garden near Hay on Wye and runs planting design workshops. He is planning a new 'citizen science' survey of garden plant performance. www.noelkingsbury.com

Cassian Schmidt, who took the photographs for this article, is a botanist and curator of the Hermannshof gardens in Weinheim, Germany.

This year's Chelsea Flower Show clearly illustrated a new trend in planting design – 'mixed planting', where individual plant varieties are blended and intermingled. In the past, it was widely believed that 'blocks' – multiples of the same variety – created the greatest visual impact.

In Germany, with its strong tradition of perennial growing and (by our standards) generous public funding for research into public horticulture) mixed planting has become an established tool for creating colourful, dynamic and ecologically appropriate designs. The concept arose as a way of making planting design cheaper for projects where perennials were wanted.

A formula mix is created, specifying the variety and the number of plants for a sample area, with individual plants being placed at a regular specified planting distance at random. Most mixes are created by research and teaching institutions. Members of the German Perennial Nursery Association (Bund deutscher Staudengärtner – BdS) then make the plants available. The specifier buys however many hundred square metres of the mix they need.

The idea of applying random mixes to planted combinations was first developed by Walter Korb and Wolfram Kircher, in the 1990s, with the first public plantings of the mix Silbersommer (Silver Summer) being made in 2001. Since then more than 20 Mixed Plantings have been developed at a number of educational and research institutions

in Germany and Switzerland. The trademark Perennemix® is used as a marketing umbrella for some of the mixes.

Public planting

The concept is an example of public investment going into the research and development of plantings which ornament and improve the public realm.

Mixes are designed primarily for different habitats, but also for different heights and with different colour schemes. A successful mixed planting is one which can function with relatively little maintenance. Component plants have to be able to co-exist with little input for at least 10 years together, while the survival of individual plants is less important than the survival of the whole. The species chosen are overwhelmingly long-lived and resilient, but a minority of shorter-lived species may also be included in order to create interest in the early years, while longer-lived but slower species establish. These shorter-lived plants may also self-seed, but will find less and less habitat as more permanent components increasingly dominate the habitat. The same will be true of species which spread rapidly through vegetative means, such as runners, but whose short stature renders them vulnerable to overshadowing by taller plants.

Plants are selected and combined on the basis of being 'structural',



PREVIOUS PAGE

Achilleas and salvias take over as the alliums fade in a mixed planting in the grounds of ABB a firm in Germany'

ABOVE Prairie Morning, a mix developed by Cassian Schmidt for dry to medium soil. The pink daisy is *Echinacea tennesseensis* 'Rocky Top' the dull purple *Amorpha canescens*, the grass *Nassella tenuissima*, and the pink cup *Callirhoe bushii*

FACING PAGE

Top left: *Liatrix pycnostachya*; **top right:** *Echinacea paradoxa*; **bottom left:** *Achillea filipendulina* 'Terracotta'; **bottom right:** *Amorpha canescens*

'companion' or 'ground-cover plants'. As a general rule, the summer-aspect perennial components of the mixtures include 5 to 15% structure plants, 30 to 40% companion plants and at least 50% ground cover. Some bulbs or other geophytes may also be included.

The 'Integrated Planting System'

Mixes developed at The Zürich University of Applied Sciences in Switzerland (ZHAW), under the name of the Integrated Planting System, include annuals sown after the completion of the perennial planting; such as *Eschscholzia californica*, which germinate rapidly from seed, to fill gaps between perennials in the first year and may also self-seed for the second year. Short-lived perennials such as *Digitalis lutea* are a feature of some mixes too – their survival dependent on how much they are out-competed by longer-lived components. The recently developed, Shade Pearl mix even includes a shrub, *Diervilla sessiliflora*, which is coppiced every two to three years.

Trials have been experimented with a range of spacings. Generally, more open spacings (4-6 plants per m²) have been found to be preferable. Close spacing



Top left: *Liatris pycnostachya*; **top right:** *Echinacea paradoxa*; **bottom left:** *Achillea filipendulina* 'Terracotta'; **bottom right:** *Amorpha canescens*





(8-12 plants per m²) results in early intense competition, high rates of loss, and the dominance of spreading species. Gaps may be filled temporarily with annuals or with miniature varieties of Sedum, which can be introduced simply by scattering shoots on to the soil surface (at 30gm/m²) – as is done for green roofs.

The proponents of mixed planting suggest that high numbers of species is a good guarantee of the long-term survival of mixed plantings. The Perennemix® mixtures contain between 15 and 19 species, while Silbersommer has 30. While there is evidence from plant ecology that increased species diversity improves the resilience of planting, as losses and gaps are more likely to be filled if there is a wide range of species able to occupy a variety of ecological niches, there is as yet no experimental evidence in designed plantings.

The main task, removing dead material at the end of the year, can be done with heavy-duty machinery.

Mixes I have designed for traffic junctions and other public places in Bristol have proved very resilient with little maintenance. Time to combine British plantsmanship with Germanic research rigour! ○

TOP A silver and blue mixed planting at ABB Ladenburg, Germany

ABOVE: Silbersommer, the first of the new planting mixtures, was developed in the late 1990s

Brand name of mixture* and originating institution	Visual character	Habitat
Silver Summer, AP (<i>Silbersommer</i>)	Mid-height, mostly mid-summer yellows and blues	Dry, calcareous soils, sun
Indian Summer, Hhof	Mid-height, prairie species, range of colours, grasses for late season interest	Dry to moist light spaces
Prairie Morning, Hhof (<i>Präriemorgen</i>)	As above but blue/purple dominated	As above
Prairie Summer, Hhof (<i>Präriesommer</i>)	As above but pink to purple dominate	As above
Perennemix Native Flower Transformations, An (<i>Heimischer Blütenwandel</i>)	Low, scattered mid-height, subdued colours in spring	Sun to half-shade
Perennemix Exotic Flower Transformations, An (<i>Exotischer Blütenwandel</i>)	Mid-height, yellow and violet	Half-shade to shade
Perennemix Flower Border, An (<i>Blütensaum</i>)	Low to mid-height, subdued blue and violet, spring and early summer	Sun to half-shade
Perennemix Exotic Flower Border, An (<i>Exotischer Blütensaum</i>)	Mid-height, wide colour range	Sun to half-shade
Perennemix Exotic Flower Border, An (<i>Exotischer Blütensaum</i>)	Low mix of spring-flowering species with decorative foliage perennials	Underplanting for woody plants, dry to moist
Perennemix Flower Wave (without summer mowing), An (<i>Blütenwoge</i>)	Low, scattered mid-height, strong yellow-blue contrast	Dry, sunny
Perennemix Flower Wave (with summer mowing), An	As above, but with fresh look in late summer	Dry, sunny
Perennemix Native Flower Steppe, An (<i>Heimische Blütensteppe</i>)	Low, subdued violet-blues, and yellow.	Dry, sunny, similar to natural steppe habitat
Perennemix Exotic Flower Steppe, An (<i>Exotische Blütensteppe</i>)	Low, subdued yellow-greens to blue	Dry, sunny, similar to natural steppe habitat
Perennemix Flower Veil, An (<i>Blütenschleier</i>)	Low, grey-leaved, multi-colour in spring, later yellow, violet, some pink.	Dry, sunny
Grass dance, Erf (<i>Tanz der Gräser</i>)	Low perennials and taller grasses, multi-coloured.	Dry to moist, sunny
Veitshöchheimer Flowering Mosaic, Vt (<i>Blütenmosaik</i>)	Low, yellow and blue	Dry, sunny
Veitshöchheimer Flower Magic, Vt (<i>Blütenzauber</i>)	Mid-height, blue-dominated, later blue, yellow and red.	Dry to moist, sunny
Veitshöchheimer Flower Dream, Vt (<i>Blüentraum</i>)	Mid-height, multi-coloured	Dry to moist, sunny
Veitshöchheimer Colorplay, Vt (<i>Farbenspiel</i>)	Low early, later higher, multi-coloured	Dry to moist, sunny
Veitshöchheimer Color Border, Vt (<i>Farbensaum</i>)	Low to mid-height, yellows, blues, white	Sun to half-shade
Summerwind, Wäd (<i>Sommerwind</i>)	Low, pastels - violets, yellows, silver foliage	Dry, sunny
Summerfresh, Wäd (<i>Sommerfrische</i>)	Low with some taller, violet, yellow, grasses important	Dry to moist, sunny
Indian Summer, Wäd	Warm colours from yellow to orange, red autumn colour	Dry to moist, sunny
Pink Paradise, Wäd	A variety of pinks	Dry to moist, sunny
Summer Night's Dream, Wäd (<i>Sommernachtstraum</i>)	Blue-violet with purple foliage, grasses important	Moist soils
Shade Pearl, Wäd (<i>Schattenperle</i>)	Mid-height to taller, yellow and blue-violet, red, pink later	Shade, underplanting trees

*German brand names are given in italics, unless an English name is used. AP = Arbeitskreis Pflanzenverwendung BdS. (research group of the German Perennial Nursery Association) Hhof = Sichtungsgarten Hermannshof, Weinheim. (Display Garden) An = Hochschule Sachsen-Anhalt, Bernburg (University of Applied Science). Erf = andesversuchsanstalt für Gartenbau, Erfurt (State Horticultural Research Institute). Vt = Landesanstalt für Wein- und Gartenbau, Veitshöchheim (State Institute for Viticulture and Horticulture). Wäd = Zürcher Hochschule für Angewandte Wissenschaft, Wädenswil, Switzerland. (Zürich Canton University of Applied Sciences) This table is adapted from Norbert Kühn, *Neue Staudenverwendung* (Ulmer Verlag 20)