

STUDENT PROJECT: PRAIRIE GARDENING: POPULAR STYLE, AMBIGUOUS TERMINOLOGY?

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ABSTRACT

The paper attempts to unpick the real meaning of the term 'prairie gardening' and to explore its popularity in a European context. Establishment and maintenance techniques are also considered. The term is, however, applied without discrimination to a wide range of styles, from large-scale traditional prairie restoration or re-creation projects through to highly stylised prairie interpretations.

Research included a literature review to assess the main ecological features of, and threats to, native North American Prairie and an examination of the origins of contemporary 'prairie gardening' in both the USA and Europe. Primary data was gathered from eight UK gardens associated with this planting style. The evidence suggests that the spectrum of styles encompassed by this term is broad even within the UK, a clear indication that its usage is over-simplistic and potentially ambiguous.

The author offers her own classification of the genre under the umbrella term '*prairie-style* gardening' in the hope of further clarification. The paper is a summary of a project which was carried out as part of the second-year project of the HND in Horticulture with Plantsmanship at Royal Botanic Garden Edinburgh.

INTRODUCTION

The late 20th and early 21st centuries have seen a surge in interest in more natural or naturalistic gardening, whereby plant associations and habitats are emphasised to create beautiful and sustainable plantings. Those relying predominantly upon herbaceous plants and grasses with origins in the North American Prairie are often referred to as 'prairie gardens'.

The author's interest in this genre originated at Cambo Gardens in Fife, where several borders offer stylised interpretations of prairie and steppe habitats. A recent development (2009) is a new planting featuring 70 North American Prairie species.

The latter draws inspiration from the true North American Prairie in terms of species mix and plant arrangements but the author and others (P. Lusby, L. Morris and D. Knott, 2010, pers. comm.) believe the term 'prairie gardening' is often used to describe a wider range of planting styles. In the USA it describes both traditional prairie restoration projects and small-scale garden projects. In Europe it is applied to the more stylised work of Dutch garden designer Piet Oudolf, with its large intersecting drifts and feature plants, many of them cultivars. Within the UK, the work of James Hitchmough

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(see the reference list for works in which Hitchmough is a contributing author) on the creation and maintenance of sustainable naturalistic herbaceous vegetation has also been described as ‘prairie planting’ (Wilson, 2009).

The term is applied to a range of styles with little discernment. Garden writer Noël Kingsbury comments that whilst “we all love prairie”, the term has been much abused, “with lazy journalists using it to describe any planting based on herbaceous perennials with a few grasses thrown in and a vaguely naturalistic aesthetic” (Kingsbury, 2009a). He notes that his own usage of the term – to describe a style of planting that is ornamental but strongly naturalistic and biodiversity-friendly, using lots of North American species – has contributed towards both its popularity and its consequent debasement.

The project for the author’s HND course aimed to unravel the meaning of ‘prairie gardening’, exploring its popularity and the scope of the term as applied in European garden settings. The main features of and threats to the native North American Prairie habitat were assessed and the origins of contemporary ‘prairie gardening’ and other ecologically based plantings were identified, along with key practitioners and methods. The author visited eight UK gardens to examine establishment and maintenance techniques.

NORTH AMERICAN PRAIRIE HABITATS – CHARACTERISTICS AND THREATS

The word ‘prairie’ – from the French word for meadow: *le pré* – was coined by French explorers to describe the vast treeless landscape of middle America (Lloyd, 2004) covering around 1.4 million square miles (Blue Planet Biomes, 2010).

In reality ‘prairie’ is a catch-all term, used to describe complex grassland communities that vary according to soil moisture, altitude and topography. Common features are as follows:

- Prairies are semi-natural plagioclimax communities developed in the last 10,000 years as a result of burning and grazing (Hitchmough *et al.*, 2004). They persist because evapo-transpiration is higher than rainfall so trees cannot grow. They differ from meadows, which are grasslands that provide both grazing and an annual hay crop (Lloyd, 2004). Meadows tend to have less fertile soils with a short flowering season, whilst prairies flower for longer and have higher fertility levels (Oudolf & Kingsbury, 2005).
- The prairie ecosystem has evolved to include fire-adaptive plants that survive fast-moving fires by having underground growing points. Fires clear thatch, allow the sun to reach the soil and encourage forbs² and grasses to grow more vigorously, whilst also encouraging seed germination. Burning is an important management technique for many ‘prairie gardens’, particularly in North America.

2. The term ‘forbs’ is used widely in the literature relating to grassland habitats and prairie gardening to refer to all non-grassy herbs in a prairie or savanna (Wasowski, 2002). Non-herbaceous shrubby plants such as roses and *Amorpha canescens* (leadplant) are also sometimes included in this category as they are regularly burned to the ground before resprouting.

- Prairie vegetation can be classified into ‘short grass’ – to the west in the shadow of the Rockies – and ‘tall grass’ – mainly in the east. The latter can reach human head height. There is also north–south variation in terms of heat, evaporation and length of growing season (Wasowski, 2002). Prairies are often classified by soil moisture as wet/hydric, moist/mesic or dry/xeric (Lloyd, 2004). Mesic prairies tend to have deep, fertile, humus-rich soils and are most showy in terms of flowers (Hobhouse, 1997).
- Prairies comprise a matrix of grasses with flowering perennials as a minority – respectively a mix of around 70:30. Prairie grasses grow either in warm or cool seasons. Most warm-season grasses are C4 plants – drought tolerant, efficient at photosynthesising in hot conditions and fire-tolerant because they come into leaf late (Wasowski, 2002). These may be less suited to European climates. Many are clump-forming rather than mat grasses, thus providing space for forbs (Lloyd, 2004).
- Prairie plants have a deep and dense network of roots (many with mycorrhizal associations) and can access moisture and nutrients in different soil layers (Wasowski, 2002). Prairie soils are mainly deep and fertile and their vegetation is therefore well-suited to European gardens.
- Legumes play an important role, particularly in dry prairies (Wasowski, 2002) where root nodules fix nitrogen. Examples are *Amorpha canescens* and *Glycyrrhiza lepidota*.
- ‘Showy’ prairie forbs often belong to the Asteraceae – for example *Rudbeckia* and *Echinacea*.

Vast tracts of prairie habitat have been lost over the last 200 years through a massive programme of ploughing and drainage culminating in the 1930s Dust Bowl disaster. Less than 1 per cent of the amount present pre-European settlement remains (Wasowski, 2002), of which perhaps 20 per cent is actively managed and protected (Prairie Enthusiasts, 2010). This habitat loss has resulted in the emergence of prairie conservation, prairie restoration and ‘prairie gardening’.

The term ‘prairie style’ was first used in relation to the work of landscape designer Jens Jensen (1860–1951) but this mainly related to aesthetics rather than to the use of indigenous plants. Aldo Leopold (1887–1948) was the first to advocate true prairie restoration, experimenting with replanting prairie plants to stabilise soil in the 1930s and later helping restore the Curtis Prairie at the University of Wisconsin-Madison Arboretum which had been converted to agriculture in the 19th century. Today the Curtis Prairie is home to around 300 native plants (University of Wisconsin-Madison, 2010) but it took over 30 years to start regaining its prairie soil characteristics, illustrating the complexity of prairie ecosystems (Lloyd, 2004).

Leopold inspired many others, resulting in the formation of prairie conservation agencies and numerous restoration projects at American universities and botanic gardens (Bush Brown & Bush Brown, 1980), including the Minnesota Landscape Arboretum, Chicago Botanic Garden and Longwood.

ORIGINS OF NATURALISTIC AND ECOLOGICALLY BASED GARDENING
IN EUROPE

Whilst the North American Prairie conservation movement was a direct response to habitat loss, European interest in ‘prairie gardening’ derives from a late 19th century trend towards natural gardening. William Robinson (1870–1935) was the main advocate, encouraging gardeners to work with nature to create mutually supportive plant communities³ made up of native and exotic species (Hobhouse, 1997; Wilson, 2002). Robinson abhorred Victorian bedding, promoting instead the use of plants with wild character. His work built upon the 18th century ‘natural style’ which perceived nature as a painter of romantic landscapes (Woudstra & Hitchmough, 2000).⁴

Gertrude Jekyll (1843–1932) was also inspired by nature. As an artist she had strong views on colour arrangement and appreciated texture and structure. Her plantings were, however, high maintenance – “her type of cottage-garden exuberance was too fragile in content and spirit to survive long without her presence” (Hobhouse, 2002).

The development of ecological and naturalistic planting styles in continental Europe took a different course. The findings of natural historian Von Humboldt (1769–1859) on plant geography were put into practice at the Berlin-Dahlem Botanic Garden in the early 20th century, where they were promoted by landscape designer Willy Lange (Woudstra, 2004). Unfortunately Lange’s ideas were manipulated by the 1930s National Socialist Government which promoted the use of native plants in order to conserve the all-important German countryside (*Heimatschutz*) (Woudstra, 2004; Hobhouse, 1997).

In post-war Germany ecological planting proceeded but without political connotations. Nurseryman Karl Foerster (1874–1970) led the way, introducing many perennials from the wild to extend the season (Hobhouse, 1997). Richard Hansen set up the Institute for Perennials, Shrubs and Applied Plant Sociology in Weihenstephan and developed the *Lebensbereich*⁵ planting style, referring to the close matching between a site’s ecological conditions and a species’ ecological preferences (Kingsbury, 2004). Hansen and Stahl in *Perennials and Their Garden Habitats* (1993) promote sustainable and aesthetically pleasing, habitat-based planting, providing detailed species lists suitable for establishing complex communities such as prairies and steppes.

Rosemary Weisse’s steppe-style planting at Munich’s Westpark (Wilson, 2002) is a good example of this approach as is the Sichtungsgarten Hermannshof at Weinheim. Here, naturalistic plantings include a ‘Prairie Garden’ with over 350 species in a 1,500 square metre area. The focus is on low maintenance but beautiful plant communities (Hermannshof, 2009).

An ecological approach has also been adopted in the Netherlands and Sweden. The Dutch approach, developed by Thjsse and epitomised by the Amstelveen ‘heemparks’,

3. Note that it is unlikely that Robinson thought of plant communities in ecological terms. Woudstra (2004) certainly believes that his ideas were firmly based in aesthetics rather than in ecology. Nonetheless he did draw inspiration from natural plant communities.

4. In contrast to Robinson’s work, these 18th century landscapes were generally rather flowerless.

5. *Lebensbereich* can be approximately translated as ‘living space’ or ‘habitat’.

involves manipulating the native flora and natural habitats with an emphasis on aesthetics and requires skilled labour (Hobhouse, 1997; Woudstra, 2004; Kingsbury, 2004). Some Swedish designers use both exotics and natives in ecological groupings – an approach likely to concern purist ecologists. Dunnett and Kingsbury (2004) and Woudstra (2004) describe this work. Kingsbury (2004) has reviewed contemporary North American and European naturalistic and ecological planting design, categorising practitioners according to the degree to which they use native species in a natural or ecological manner (Fig. 1).

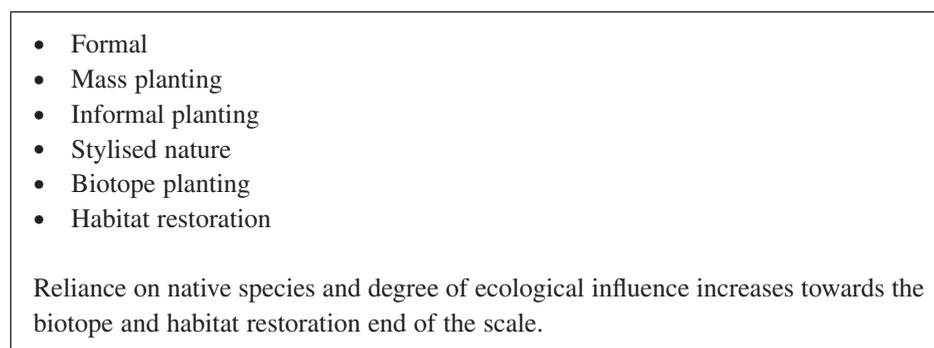


Fig. 1 Noël Kingsbury's classification of naturalistic and ecological planting design. Adapted from Kingsbury (2004).

Kingsbury also discusses the work of influential practitioners in Britain who have been linked with 'prairie planting'. These include the following:

Beth Chatto

Credited with having popularised ecologically inspired gardening in Britain, Chatto works with plants from habitats suited to her garden conditions. She focuses on form, shape and texture rather than simply colour.

James Hitchmough

Professor of Vegetation Ecology at the University of Sheffield, Hitchmough researches the best and most economical ways to create and manage naturalistic herbaceous vegetation.

His work on experimental plots in Ayrshire and North and South Yorkshire is described in several publications (see the reference list for these but particularly Hitchmough & Dunnett, 2004; Hitchmough, 2004; Hitchmough *et al.*, 1999, 2000, 2004, 2006; Lloyd, 2004). Early work focused on the establishment of cultivated herbaceous perennials in purpose-sown native wildflower meadows, where he found that many of the cultivated forbs were eliminated from the sward within three years because of competition from native meadow species.

Later trials focused on direct sowing of North American Prairie forbs and grasses (Hitchmough *et al.*, 2004) and revealed that winter seed sowings on a sand growing medium worked best. Slugs and snails are problematic but if these and native weeds are controlled during the year 1 emergence period, this establishment method works well with optimum sowing densities. Mixes usually include around 20 species chosen for suitability to the site (Hitchmough, 2010). Management through burning is advocated to suppress native weeds and molluscs and encourage ‘desirable’ self-seeding.

Hitchmough’s work at RHS Wisley, Harlow Carr, Sheffield Botanical Gardens, the Eden Project and the London 2012 Olympic site has sometimes been described as ‘prairie planting’ (Wilson, 2009) in the gardening press.

Christopher Lloyd

Lloyd planted North American Prairie species grown from Minnesotan seed into an existing meadow (Lloyd, 2004) but experienced limited success owing to competition from native grasses that grow throughout winter. Some forbs survived but he lost all the original prairie grasses.

Piet Oudolf

Oudolf has created a number of large perennial plantings in English gardens⁶ and is often linked to ‘prairie planting’. He selects plants that perform well all year round in terms of vigour, structure, colour, texture and ease of maintenance (Wilson, 2002) and uses many (but not exclusively) plants of North American origin. Inspired by nature, he enjoys plants at all stages of their life cycles but his designs can be formal, mixing large swathes of perennials and grasses with clipped evergreens.

Other contemporary practitioners linked with ‘prairie gardening’ include Tom Stuart-Smith, Dan Pearson, Keith Wiley and Christopher Bradley-Hole. Some of these practitioners have been described as forming the ‘New Perennial’ movement.

RESEARCH METHODOLOGY

The author visited eight British gardens described as containing ‘prairie planting’ to gather further primary data. Fig. 2 shows their locations.

It was decided that these should include a botanic garden, a Piet Oudolf design and a Hitchmough direct sowing. Cambo Gardens was also included, as one of the few plantings comprising purely North American Prairie species. Visits to continental European gardens were excluded on the grounds of cost.

Most garden visits took place in spring – not ideal for viewing gardens that excel in late summer – but useful information on establishment and ongoing maintenance was obtained through informal discussions with owners, designers or head gardeners.

6. These include Bury Court, Pensthorpe, Scampston, Trentham and Wisley.



Fig. 2 Location of gardens visited as part of the research for this project.

Cambo Gardens, Fife

Cambo's 2.5-acre walled garden is much admired for its contemporary habitat-based naturalistic plantings.

Head Gardener Elliott Forsyth notes: "we are interested in maximising how hard our borders work. We do this by considering all aspects of the plant as it moves through the seasons from spring growth to winter seedheads ... Grasses are an integral aspect in the creation of a diffused naturalistic effect. The way they move, combine and catch the light helps to invoke a sense of nature."

Within the walled garden Forsyth has created stylised interpretations of steppe and prairie habitats (Fig. 3) but his most recent and pioneering project is a more realistic interpretation of the North American Prairie on a 700-square metre site outside the walled garden.

This was established using seed from a Minnesota-based nursery. Seedlings were grown on for one season and planted in summer 2009. Prior to planting, the site was covered with 40 tonnes of coarse gravel raked to a depth of 20cm. The gravel's function is to reduce mollusc predation.

The planting is inspired by Sichtungsgarten Hermannshof but the plant selections were Forsyth's, based on studies of North American Prairie flora. Criteria for species



Fig. 3 Cambo Gardens: Double prairie border interpretations pictured in midsummer. Photo: Bernhard Jansen.



Figs 4 & 5 Cambo Gardens: New prairie planting in its second summer. Photo: Bernhard Jansen.

selection were: suitability for site, performance, beauty, sustainability and availability. There are around 70 species: 70 per cent grasses and 30 per cent forbs. Many species – particularly the grasses – are not currently grown in the UK and may be constrained by our climate, so the project carries considerable risk.

The area is divided into three zones – tall, mixed and short grass prairie – but Forsyth blurred the edges, positioning plants randomly and diffusely rather than in drifts or blocks. He is experimenting, believing that many plants will coexist at much closer spacings (c. 14 plants per square metre) than he would normally use within formal plantings. Figs 4 and 5 show the planting in its second summer.

Forsyth will study the planting's evolution and anticipates that management will be required to stop the tall grass areas from spreading and to prevent it becoming "dull". He expects the planting to 'behave' differently from the Hermannshof plantings, which have a continental climate. In our milder climate competition from native grasses and other weeds and mollusc predation could be problematic.

The plants will be cut back hard in spring with all plant material raked off to avoid the build up of thatch and molluscs. This contrasts with the walled garden, where the plant material is cut down, chopped up and left on top of the borders prior to the application of a composted bark mulch. Forsyth may trial controlled burning.

Forsyth feels that 'prairie planting' can be a misnomer. Although some of the walled garden plantings have previously been referred to as 'prairie', he prefers the term 'naturalistic', classifying only pure North American Prairie species plantings as true 'prairie plantings'. Despite strong links with the true North American Prairie, this is an eclectic interpretation combining the 'best' elements.

Geilston, Argyll

Geilston is owned by the National Trust for Scotland and features a late 18th century walled garden, a woodland garden and a vegetable garden. The 'prairie' element is within the vegetable/cutting garden area. Head Gardener Joanna Gough became interested in naturalistic gardening and prairie plants through Hitchmough's early research into the establishment of low-maintenance meadows (Hitchmough, 2000). She decided to explore the scope for low-cost, low-maintenance plantings by sowing a prairie trial plot (c. 36 square metres) in 2002. Seeds from Jelitto were grown into plugs before being planted in a diffuse arrangement. Gough selected moisture-loving prairie forbs but no grasses as she felt they would not thrive in the wet climate.

The planting is cut back in February. It has sustained well without further replanting but there has been little self-seeding and some invasion by native grasses. *Rudbeckia fulgida* 'Goldsturm' and *Eupatorium maculatum* have spread vigorously (Fig. 6).



Fig. 6 Geilston: Small prairie border pictured in October – *Rudbeckia* and *Eupatorium* spp. dominate.
Photo: Katherine Taylor.

Lady Farm, Somerset

This 12-acre private garden has been developed in the last 10–15 years by owner Judy Pearce with input from designer Mary Payne. It includes three informal areas of highly acclaimed prairie and steppe planting (differentiated by species selections).

The prairies are planted in fairly loose drifts and blocks but the steppe plantings are particularly diffuse. The latter are dominated by *Stipa tenuissima*, *Carex testacea* and *Miscanthus transmorrisonensis* interspersed with *Eryngium* ‘Picos Blue’, *Hemerocallis* ‘Golden Chimes’, *Kniphofia* and *Verbascum* species. A total of 2,500 container-grown plants were planted in the steppe through gravel mulch but there has been extensive self-seeding.

The prairies are cut in February and mulched with composted bark to suppress weeds and retain moisture and nutrients. All plant material is removed. In the steppe areas the dead grass foliage is pulled out rather than being cut back hard and there is no additional mulching.

Little weeding is needed because of the high planting density, and Pearce considers the garden to be low maintenance.

Pensthorpe Nature Reserve and Gardens, Norfolk

Pensthorpe features Piet Oudolf's first major UK public commission – the Millennium Garden – which was established around 12 years ago as a late-season attraction (Buckland, 2001).

A decade on, a major renovation of the planting was completed by Head Gardener Imogen Checketts in partnership with Oudolf. Some plants (for example *Persicaria* 'Rosea' and 'Firedance') had got out of control and there was some serious weed incursion (Checketts, 2010).

Oudolf originally planted around 12,500 plants. The 2009/10 planting – which extends the season through the use of early-flowering forbs and bulbs and introduces a brighter colour scheme – added 6,000 plants but around one-third of the originals had already been lost. The design itself is quintessentially 'Oudolfesque' with large blocks or waves of signature plants such as *Phlomis tuberosa* 'Amazone', *Persicaria amplexicaulis* 'Firedance', *Salvia verticillata* 'Purple Rain', *Lythrum virgatum* and *Eupatorium purpureum* subsp. *maculatum* 'Atropurpureum'. Checketts describes it as a textural tapestry of colours and subtle structures (2010) (Figs 7 and 8). Planting density is around seven plants per square metre.



Fig. 7 Pensthorpe: Large colourful drifts in the Pensthorpe Millennium Garden. Photo: Elliott Forsyth.



Fig. 8 Pensthorpe: Millennium Garden in midwinter – plants left standing as attractive features in their own right when covered with frost. Photo: Imogen Checketts.

Checketts considers the planting to be reduced rather than low maintenance. There is no deadheading or feeding and very little irrigation. Some plants receive a ‘Chelsea Chop’.⁷ The garden is strimmed in February and all plant material is removed. The low fertility provokes heavy flowering.

Checketts believes the term ‘prairie gardening’ is an inaccurate description of Oudolf’s work. Although Pensthorpe differs from some of his other work in that it provides a sense of being in the wild by blending with the surrounding landscape and avoids some of his trademark formal elements – such as clipped hedges – Checketts does not classify it as a ‘prairie garden’ herself, since it contains cultivars and species from other geographical areas and has a high forb content.

Sheffield Botanical Gardens

These feature a North American Prairie Garden direct sown by Professor Hitchmough. As already described, he has long experimented with the creation and management of

7. The ‘Chelsea Chop’ involves cutting back perennials in late spring to create bushier plants that flower later and more prolifically. It is carried out in late May or early June, soon after the famous flower show has ended.



Fig. 9 Sheffield Botanical Gardens: Spring maintenance – controlled burning with a propane burner. Photo: James Hitchmough.

naturalistic herbaceous vegetation at minimum cost. As a result he mainly uses direct sowing with seed mixes that are carefully calibrated to create the desired aesthetic effect.

Seed was sown in February 2004 into a 75mm layer of sand to suppress weeds and reduce mollusc activity. The area was covered with jute (to conserve moisture) and irrigated from March to April to maintain soil at field capacity (sowing densities are based on germination trials at field capacity). The area is burnt each spring using a blowtorch to control weeds and encourage germination. The planting has sustained well with little further management and Hitchmough believes such schemes have an unlimited life. Over time, the species mix changes, with short-lived species such as *Penstemon* dying out, but the burning encourages self-seeding. No additional organic matter is applied as this could reduce self-seeding.

The Sheffield Prairie Garden had a higher plant density than any other garden visited. In this sense it captures or at least mimics the visual essence of the true North American Prairie habitat (Fig. 9). The species mix, however, contains very few grasses. Most North American Prairie grasses are C4 plants which grow slowly in our milder climate. These are shaded out by forbs if sown at high densities.

As a vegetation ecologist Hitchmough looks carefully at the qualities of plants, avoiding strong competitors and preferring plants with a tight crown of shoots rather than vigorous lateral growth. Although his plantings self-thin over time, the magnitude of this varies according to soil fertility since competition generally declines with reduced

resources. Plant density usually settles at around 20–40 plants per square metre in fertile sites and from 40 to 70 in lower-fertility sites.

One of the main advantages of this approach is the low cost – around £3 per square metre. Maintenance is minimal and does not require skilled labour.

Hitchmough believes his work is labelled as ‘prairie gardening’ because this is simple to understand. For him the North American Prairie flora offers a range of species that grow well on fertile soils with a long flowering season and are suited to urban and garden sites.

Perhaps controversially, Hitchmough does not keep his seed mixes ‘pure’ in terms of geographical origin. Not surprisingly, his work on introducing exotics into meadow-type plantings – which he argues can benefit wildlife (Hitchmough, 2005) – has provoked debate amongst conservationists.

The Walled Garden at Scampston, North Yorkshire

Scampston was originally landscaped by Bridgeman and ‘Capability’ Brown with the walled garden constructed in the mid-18th century. By the 1990s it had fallen into disrepair and was being used for Christmas trees and grazing.

Oudolf’s design – commissioned by the Legard family after they saw his work at Bury Court in Surrey – divides the garden into beech-lined rooms with serpentine forms of yew, box cubes and pleached limes providing a framework for large drifts of perennial forbs and grasses. The ‘Drifts of Grass’ (huge waves of *Molinia caerulea* ‘Poul Petersen’) and the ‘Perennial Meadow’ (four beds densely planted with drifts of Oudolf’s trademark species – see Fig. 10) are those most likely to be described as ‘prairie plantings’.

The latter includes around 50 different species – all of them robust, easily cultivated and disease-resistant. Most are cultivars of North American Prairie species.

Head Gardener Paul Smith believes this style of gardening spreads the maintenance throughout the year, requiring fewer staff than traditional herbaceous border



Fig. 10 Scampston: Perennial Meadow planting in midsummer. Photo: Paul Smith.

management. The borders are cut with hedge cutters in February when splitting and division is also carried out (the grasses in particular prefer spring division). Plant material is removed and there is no feeding or mulching – low fertility encourages flowering and avoids the need to stake. Weeding requirements are reduced because of plant density (around eight plants per square metre) and there is no deadheading.

The planting is quintessentially ‘Oudolfesque’, with large drifts of plants carefully executed in terms of texture and form and in the way the plants link together and support each other.

Like Checketts at Pensthorpe, Smith believes the term ‘prairie gardening’ is inaccurately applied to Oudolf’s work at Scampston, although clearly Oudolf is influenced by his observation of North American Prairie plant habits.

Sussex Prairies, Sussex

This relatively new six-acre garden has been planted by Paul and Pauline McBride in the style of Oudolf, with whom they worked at their garden project Altlorenscheuerhof in Luxembourg.

It comprises formal geometric curved beds, each one around one-fifth to one-third of an acre in size, which are packed with large blocks of herbaceous perennials and grasses (Fig. 11). The beds are criss-crossed with paths allowing visitors to walk amongst the tall plants.

Thirty-five thousand plants – propagated from plants at Altlorenscheuerhof, purchased in 9cm pots or grown from seed – were planted in May 2008 and established quickly. Photographs in Fig. 12 show it just 15 months later. The flowering season runs right through from May to November.



Fig. 11 Sussex Prairies: View of whole site. Photo: Marianne Majerus.



Fig. 12 Sussex Prairies: Borders in summer 2009 – just 15 months after planting. Photo: Marianne Majerus.

A two-wheeled mower is used to cut the borders back in February. Plant material is left *in situ* and some borders are burnt. This works well in dry conditions. Around one-third of the beds will be mulched annually using green waste council compost. There is no feeding or staking.

Despite their garden's name, the McBrides find the term 'prairie gardening' more journalistic than horticultural, preferring to describe their design as naturalistic and habitat-based. Most plants here are fairly distant cousins of true North American Prairie species but the garden nonetheless has a wild prairie aesthetic, resembling a grassland with large blocks of forbs.

Trentham Estate, Staffordshire

Trentham's chequered history features a mid-18th century Capability Brown-designed parkland, a formal Italian Garden designed by Sir Charles Barry between 1833 and 1850 and a period of decline when it was used as a leisure park and military training site (Trentham, 2010).

Today the gardens are being recreated blending Barry's original designs with contemporary perennial planting by Tim Stuart-Smith and Piet Oudolf. The author was unable to conduct an interview here but an examination of the plantings found them similar to Oudolf's work at Scampston and Pensthorpe. The Rivers of Grass area comprises large beds of *Molinia*, whilst the Floral Labyrinth area comprises 30 beds of large blocks of colourful perennials and grasses.

Maintenance follows the usual pattern for this type of planting – leaving plants standing until February for winter interest and cutting back with strimmers/hedge cutters.

DISCUSSION

Garden visits and a thorough review of the literature have facilitated further discussion and clarification of the term ‘prairie gardening’ as applied in European gardens.

Origins of ‘prairie gardening’ and breadth of style

Early references to ‘prairie gardening’ refer to Jensen’s early 20th-century work in North America, which drew inspiration from a prairie landscape under threat. It was, however, Leopold’s prairie restorations (focusing on native species) that kickstarted the conservation and gardening movement in the 1930s. Many North American botanic gardens have examples – but garden-scale projects are popular too (Wasowski, 2002).

European-style ‘prairie gardening’ is driven less by conservation and more by a desire to create long-lasting, mutually supportive plantings that behave like plant communities. Beauty and low maintenance are important criteria. William Robinson was an early advocate of natural planting, whilst in Germany Foerster and Hansen developed the *Lebensbereich* style – habitat-based planting.

Contemporary designers drawing upon these ideas are often referred to as the ‘New Perennial’ or ‘Naturalistic’ movement. Plants used tend to be closely related to their wild ancestors – for example flower-to-leaf proportions are similar to wild species, reducing staking requirements (Kingsbury, 2009b).

Many of the forbs used originate in North America and grasses (not always North American) are used extensively, creating a grassland community aesthetic – hence the term ‘prairie gardening’.

Two main aesthetic styles emerged amongst the plantings examined. Some used informal blocks of plants in dramatic drifts – Oudolf’s plantings at Pensthorpe, Scampston and Trentham and the McBrides’ Sussex Prairies. Hitchmough’s direct-sown meadows had a more diffuse aesthetic with high plant densities. The Cambo prairie is between the two.

Species used and grass-to-forb proportions also vary. Hitchmough uses almost no grasses. Oudolf and the McBrides use grasses but not generally of North American origin. Cambo’s prairie uses 100 per cent North American Prairie species (no cultivars) and almost 70 per cent of this is grass.

The origins of ‘prairie planting’ can thus be attributed to a few individuals but the genre now includes a broad spectrum of styles.

Popularity of 'prairie gardening'

'Prairie planting' is reputed to be low maintenance. Not all interviewees considered it low maintenance but all agreed it was reduced maintenance – hence its popularity.

Planting costs were not examined but it can be cost-effective if resources are available to raise plants from seed. Hitchmough's direct sowing is most economical.

Plantings are quick to establish; at Sussex Prairies beautiful effects were achieved in one year. Nowadays people want instant results and 'prairie planting' can produce these.

The natural appearance also fits with our zeitgeist. Plantings use fewer resources – being rarely fed artificially – and thus seem to be more sustainable. People tend to equate 'natural' with 'good' (Oudolf & Kingsbury, 2005) and this may have contributed to the style's popularity, alongside the beauty of the plants, their attractiveness to wildlife and their long flowering season.

Links between European 'prairie gardening' and true North American Prairie

Few UK 'prairie gardens' focus entirely on North American Prairie species. The Cambo planting has real affinity to this habitat in terms of species, forb-to-grass ratios, plant arrangement and density but is still an interpretation of the 'best' elements. An exact prairie replica – with high grass content – might look rather dull in a horticultural setting.

Oudolf's plantings, so commonly described as 'prairie plantings', are far removed from the true habitat. They use cultivars, are less densely planted than a typical grassland community and have far fewer grasses. Plant arrangements are blocky rather than diffuse as in nature and often incorporate formal features. Nonetheless they take inspiration from the Prairie in their expansiveness and use of plants closely linked to their wild relatives.

Hitchmough's meadow and prairie plantings capture elements of true Prairie habitat – high density and diffuse plantings with high proportions of North American species rather than cultivars – but are almost entirely based on forbs, reflecting an 'idealised' vision, rather than the reality of a grass matrix with flowering perennials in the minority.

All European 'prairie gardens' are interpretations located in gardens, themselves artificial environments. An examination of North American 'prairie gardens' would probably find that even small-scale versions have a greater affinity with the original habitat.

Aesthetic differences between 'prairie planting' and the work of earlier designers

Contemporary designers of 'prairie plantings' are certainly influenced by Robinson, who focused on plants with wild characteristics, and by Hansen and Foerster, who promoted more ecological planting. Jekyll's work on drift planting and colour theory was also

key. Oudolf and his imitators' drifts tend, however, to be larger and more irregularly interwoven drifts than Jekyll's. These are designed to be viewed from all angles and use more grasses, producing a softening effect.

Other contemporaries – Hitchmough and Forsyth – aim for a diffuse natural style. Hitchmough 'abandons' control through direct sowing and Forsyth deliberately applies randomness.

Main European practitioners

Oudolf is the most well-known contemporary designer linked with 'prairie planting'. He himself would probably argue, however, that his work is not wholly naturalistic or 'prairie' because he uses cultivars and non-prairie species at much lower planting densities than in true Prairie. His designs, though inspired by grasslands, also have formal elements. Oudolf's work is much imitated, for example Sussex Prairies.

Hitchmough has pioneered direct sowing methods for meadow/prairie creation. The Hermannshof⁸ uses North American Prairie species in a way that reflects the true habitat and Forsyth's Cambo planting is influenced by this. Time will tell whether truly North American Prairie-inspired planting will succeed in the UK, with such different climatic conditions.

Establishment and maintenance methods for 'prairie plantings'

Research identified two main establishment approaches, producing different results. Hitchmough's research into direct sowing should be consulted by anyone establishing a meadow or prairie. For North American Prairie species he recommends spring sowings into a layer of sand kept at field capacity during germination. Little further maintenance is required except mollusc control and spring burning – if this is not possible plant material can be cut and raked off. The advantage, apart from reduced cost and low maintenance, is that dense and diffuse plantings can be created. The disadvantage, for a garden, is reduced control over design.

Alternatively, container-grown plants either grown from seed or purchased from a reputable supplier can be planted. Oudolf generally plants at 6–8 plants per square metre; Forsyth is experimenting with 12–14 plants per square metre.

Maintenance involves cutting or burning. Some practitioners remove the plant material, others chop it up and leave it *in situ*, sometimes covering it with composted bark mulch. Mulching suppresses weeds but reduces self-seeding. At Pensthorpe and Scampston, with no mulching, quite a lot of handweeding is required before the plants green up but the low fertility encourages vigorous flowering. Burning clears thatch,

8. This garden was not visited for the project because of time/financial constraints but the author has viewed the website and many photographs and has discussed the planting with Forsyth, the McBrides and Hitchmough.

kills molluscs and creates better conditions for seed germination but may kill beneficial invertebrates.

None of these plantings are staked; plants are selected to be vigorous and robust. Oudolf advocates examining the plants' form and structure with plant arrangements that support each other (Oudolf & Kingsbury, 2009).

Little deadheading is done as plants are chosen to look good throughout their life cycle. Opinion varied as to whether the schemes are low maintenance. A major advantage is that the peak maintenance is in late winter, when staff are less busy. This contrasts with traditional herbaceous management which involves several periods of skilled activity throughout the year – division, staking and so on. Plantings are high density, reducing space for weeds.

Does 'prairie gardening' actually exist and is it a useful term?

This term is most frequently used by the gardening press.⁹ Those consulted here preferred other descriptions, for example, naturalistic, ecological-planting, new-perennial style. Many plantings, although inspired by the North American habitat, are far removed from it in species mix, planting density, grass-to-forb ratios and aesthetic appearance. The exception is Cambo – where real attempts are being made to reflect the true characteristics of this habitat. Hitchmough's direct-sown meadows or prairies have affinity with the Prairies in terms of the diffuseness created by high plant densities but lack grasses.

Clearly there *are* elements linking these contemporary plantings to the Prairies, which explains why journalists in particular find the term useful. It is a logical choice in terms of species used and aesthetics but is, however, an overused and simplistic tabloid term describing a broad spectrum of designs.

The eight gardens considered showed great variation and an examination of North American 'prairie gardens' would emphasise this diversity further. Whilst simple terms have value when conveying complicated messages to those who might be confused by the terms 'naturalistic' or 'ecologically inspired', perhaps '*prairie-style* gardening' might be more appropriate. Within this umbrella term, three subcategories could be identified as follows:

- *Prairie habitat restoration or re-creation*
Recreations or restorations of North American Prairie habitat within its natural geographic area and true edaphic and climatic conditions.
- *Prairie habitat planting*
Imitations of the natural North American Prairie habitat in any location with a suitable environment. Species are of North American origin and the planting arrangement has strong affinity with this natural habitat aesthetic – diffuse

9. Just a few recent examples include features on *BBC Gardeners' World* (2009 & 2010), Swift (2008) and Wilson (2009).

arrangements with a high proportion of grasses. Cambo exemplifies this approach and is a rare example in Europe.

- *Naturalistic planting*
A widely used term that refers to plantings that take inspiration from a specific habitat but that do not seek to imitate it so accurately. A naturalistic prairie might include North American prairie species cultivars with only a low proportion of grasses. These might be planted at lower densities in drifts rather than diffusely. The degree to which such plantings resemble the true habitat will vary but they will, at the very least, symbolise it. Oudolf and so-called ‘Oudolfesque’ gardens such as Pensthorpe, Scampston, Lady Farm and Sussex Prairies would fall into this category, although the classification of some of Oudolf’s gardens as naturalistic may be somewhat controversial.

Classification of Hitchmough’s direct-sown prairies or meadows is difficult. In terms of planting arrangement and density they are ‘prairie habitat’ plantings but the author prefers the term ‘naturalistic’ owing to the use of cultivars and lack of grasses.

CONCLUSIONS

- ‘Prairie gardening’ includes a wide spectrum of styles. North American ‘prairie gardens’ – not the focus here – prioritise conservation and native species, whilst European gardens are generally interpretations of this habitat’s ‘best’ elements.
- The popularity of ‘prairie gardening’ is due to perceived low maintenance, speed of establishment, value for money, beauty, the ‘natural’ appearance and wildlife benefits.
- European ‘prairie gardens’ draw inspiration from the North American Prairie, rather than trying to replicate it. The Cambo and Hermannshof plantings are exceptions to this.
- Contemporary practitioners are certainly influenced by Jekyll and Robinson’s early herbaceous plantings drawing upon theories about texture, form, planting arrangements (drifts) and the ‘right plant right place’ approach. Styles have evolved, however, with both larger irregular drifts and diffuse plantings influenced by grassland communities.
- Establishment techniques include direct sowing and planting. Each produces different effects in terms of density and diffuseness. Maintenance techniques are less intensive than traditional herbaceous management.
- ‘Prairie gardening’ is an over-simplified term, perhaps best describing ‘prairie garden’ projects in North America or Cambo’s new prairie planting. More accurate terminology for the genre would be ‘prairie-style’ gardening, with three subcategories:
 - Prairie restoration or re-creation

- Prairie habitat planting
- Naturalistic prairie planting

ACKNOWLEDGEMENTS

I would particularly like to thank Elliott Forsyth, Head Gardener at Cambo Gardens, who introduced me to ‘prairie gardens’ and naturalistic planting. Thank you also to the following people who kindly showed me their gardens in March 2010: Imogen Checketts (Head Gardener, Pensthorpe); Paul and Pauline McBride (Owners, Sussex Prairies); Judy Pearce (Owner, Lady Farm); and Paul Smith (Head Gardener, the Walled Garden at Scampston) – and to Professor James Hitchmough, Professor of Vegetation Ecology at Sheffield University’s Department of Landscape, who discussed his direct sowing techniques with me.

Finally I would like to thank Phil Lusby, David Knott and Leigh Morris at the Royal Botanic Garden Edinburgh (RBGE), all of whom provided useful advice. I am grateful to RBGE for a financial contribution towards the cost of my travels.

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