

# *Ulmus* 'Frontier'

## Frontier hybrid elm



*Ulmus* 'Frontier' (Frontier hybrid elm) was selected and marketed by the U.S. National Arboretum in Washington D.C. in 1991, as a hybrid cross between *Ulmus parvifolia* and *Ulmus minor*. Though there aren't any old trees of this selection yet, in the United States they have indicated that the selection will grow into a medium-sized, upright pyramid-shaped tree around 12 metres tall and 9 metres wide. The Frontier hybrid elm has a good, continuous bough and an open crown with protruding branches, with the ends of the branches hanging down. This gives the cultivar an elegant appearance.

In spring, the small, egg-shaped serrate leaves of the *Ulmus* 'Frontier' bud red and then turn a glossy dark green. The tree has autumn colours that are unique to the elm: a gradient of scarlet to red-violet. *Ulmus* 'Frontier' is the only elm that does not bloom in spring; instead, it blooms discrete, white-green racemes in September. After blooming, the tree produces small, winged, light green nuts. The 'Frontier' cultivar has light brown, furrowed bark.

The 'Frontier' selection, resistant to elm diseases, is a valuable addition to the elm range and furthermore suitable for planting in highly urbanised conditions. Heat, drought, air pollution, pavement and salt spray: the strong climate tree can handle it all. The cultivar can also handle wind very well, but due to its growing on its own roots, we do not recommend use in very open, windy locations. The Frontier hybrid elm thrives in every type of soil: from dry to wet and from acidic to alkaline. The easy grower can be used in streets and avenues and in squares and car parks. But the selection also does very well in parks, large gardens and along roads. *Ulmus* 'Frontier' requires less pruning than other elms, as the tree does not form any suckers and grows more slowly. For the best growth, plant the 'Frontier' hybrid elm in a sunny to partially shaded environment.

### TYPES OF PLANTING

**Tree types:** standard trees, climate trees, shade trees | **Topiary on stem:** multi-stem umbrella, espalier, pleached

### USE

**Location:** street, avenue, square, car park / parking lot, park, central reservation, large garden, cemetery, traffic areas, industrial zones | **Pavement:** none, open, sealed | **Planting concepts:** Climate planting, Solid planting, Prairie planting

### CHARACTERISTICS

**Crown shape:** pyramidal | **Crown structure:** semi-open | **Height:** 9 - 12 m | **Width:** 5 - 8 m | **Winter hardiness zone:** 5B - 9B

### ASPECTS

**Wind:** tolerant to wind | **Soil:** loess, sabulous clay, peaty, heavy clay, light clay, sand, loamy soil, all soils | **Nutrient level:** low in nutrients, moderately rich in nutrients, rich in nutrients | **Soil moisture level:** dry, moist, wet | **Light requirements:** sun, partial shade | **pH range:** acidic, neutral, alkaline | **Extreme environments:** tolerant to salt spray, tolerant to dryness, tolerates air pollution, tolerates heat, resistant to Dutch elm disease 5

### PLANTKENMERKEN

**Flowers:** raceme, discrete | **Flower colour:** green | **Flowering period:** September - September | **Leaf colour:** buds red, dark green | **Leaves:** deciduous, ovate, small, polished, rough, serrate, dentate | **Autumn colour:** scarlet, red-violet | **Fruits:** winged, small, nut | **Fruit colour:** pale green | **Bark colour:** pale brown | **Bark:** furrowed | **Twig colour:** grey-brown | **Twigs:** bare, vertical branches, pendulous | **Root system:** deep, extensive, on own root

