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**Herman et al.**

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(54) **BIRCH TREE NAME ‘VERDALE’**

(65) **Prior Publication Data**

(50) Latin Name: *Betula platyphylla*  
Varietal Denomination: **VerDale**

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(52) **U.S. Cl.** ..... **Plt./216**

(58) **Field of Search** ..... **Plt./216**

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patent is extended or adjusted under 35  
U.S.C. 154(b) by 98 days.

(57) **ABSTRACT**

‘VerDale’ is a new cultivar of *Betula platyphylla*, Asian  
white birch. This new cultivar has white bark and dark green  
leaves in addition to being highly resistant to bronze birch  
borer (*Agrilus anxius* Gory).

(21) Appl. No.: **10/768,784**

(22) Filed: **Jan. 30, 2004**

**2 Drawing Sheets**

**1**

**2**

Genus and species: *Betula platyphylla*.  
Cultivar denomination: ‘VerDale’.

Research Arboretum or under greenhouse conditions, which  
approximate those generally used in commercial practices.

**BACKGROUND OF THE INVENTION**

The present invention comprises a new and distinct cul-  
tivar of birch tree, botanically known as *Betula platyphylla*,  
and hereinafter referred to by the cultivar name ‘VerDale’.  
‘VerDale’ is a product of a planned tree selection program  
which had the objective of creating a new cultivar of birch  
tree having high bronze birch borer resistance, good birch  
leafminer resistance and various aesthetic qualities as listed  
in the Detailed Description of the Plant.

<sup>5</sup> This new birch tree is illustrated by the accompanying  
photographs which show the entire tree, foliage closeup and  
bark features, the colors shown being as true as can be  
reasonably obtained by conventional photographic proce-  
dures.

FIG. 1 shows the complete tree in dense foliage;

<sup>10</sup> FIG. 2 shows the dense foliage;

FIG. 3 shows the bark color and exfoliation on the trunks;  
and

<sup>15</sup> FIG. 4 is a close-up of the leaves.

The new cultivar is a selection of *Betula platyphylla*, and  
was discovered by applicant among seedlings grown from  
parental trees growing on the NDSU campus and was  
transplanted on Sep. 22, 1975 into the NDSU Research  
Arboretum, Absaraka, N. Dak. The selection was noticed by  
virtue of its long term bronze birch borer resistance; white  
bark; quality dark green foliage and excellent golden-yellow  
autumn foliage coloration; upright, oblong-elliptical form  
becoming broadly pyramidal with maturity.

**DETAILED DESCRIPTION OF THE  
NEW PLANT**

The following traits and characteristics describe the new  
cultivar.

The first act of asexual reproduction of ‘VerDale’ was  
accomplished when plants were produced in tissue culture  
using standard micropropagation techniques by applicant  
from the initial selection on Nov. 13, 2000 in a controlled  
environment in Fargo, N. Dak. (NDSU). Horticultural  
examination of selected units initiated on Nov. 13, 2000 has  
demonstrated that the combination of characteristics as  
herein disclosed for ‘VerDale’ are firmly fixed and are  
retained through successive generations of asexual repro-  
duction.

Classification:

*Origin*.—Seed source is unknown.

*Species*.—*Betula platyphylla*.

*Common names*.—Asian White Birch.

**TREE**

Trunk:

*Multiple stem*.—Two main trunks forming clump.

*Size*.—At 29 years of age, average diameter of two  
trunks, 30.7 cm measured at 127 cm above the  
ground.

*Bark*.—Color ranges from RHS 155B to RHS 155C,  
average length of exfoliating sheets 2.2 cm.

*Height*.—At 29 years of age, 14.6 m.

*Growth habit or form*.—Upright oblong to semi-  
pyramidal becoming broadly pyramidal with age.

‘VerDale’ has not been observed under all possible envi-  
ronmental conditions. The phenotype may vary with varia-  
tions in environment such as temperature, light intensity, and  
day length. The following observations, measurements and  
comparisons describe the plants grown in the NDSU

*Growth rate.*—50.3 cm/year (under sod conditions in arboretum, no supplementary irrigation or fertilization).

Branches:

*Angle of attachment.*—Average angle of 25 branches, 47.0 degree.

*Spacing.*—Variable.

*Size.*—Crown diameter of tree, 6.3 m at 29 years.

*Bark.*—Prior to bark changing to white, branches aged 2–4 years range in color from greyed-orange (RHS 166A/B) to brown (RHS 200A).

Lenticels:

*Size.*—1–2 mm. on branches less than one inch in diameter.

*Color.*—Whitish.

*Quantity.*—Many.

Buds:

*Length.*—6–10 mm; average 8.2 mm.

*Width.*—2–3 mm; average 2.7 mm.

*Shape.*—Imbricate, pointed.

*Pubescence.*—Scattered.

*Bud pubescence color.*—RHS 200A (Brown).

*Bud color.*—Ranges from RHS 146B to RHS 146C.

*Time of leaf out.*—Varies from May 1–15.

Foliage:

*Size of leaf.*—Length — Range 7.5–10.7 cm, average 8.8 cm. Width — Range 5.2–7.9 cm, average 6.5 cm.

*Shape of leaf.*—Ovate-triangular to ovate-deltoid. Margin — Doubly-serrate. Texture — Medium.

*Pubescence distribution.*—Glabrous on both leaf surfaces, except scattered hairs on main vein (midrib) and lateral veins, more prevalent on bottom side.

*Color.*—Upper side, RHS 137A (green). Underside, RHS 148B (yellow-green).

*Autumn color.*—RHS 17C (yellow-orange).

*Petiole.*—Range from 1.9–2.8 cm, average 2.3 cm.

*Ribs and veins.*—Average of 9 vein pairs per leaf.

*Thorns and spines.*—None.

*Buds.*—Imbricate, pointed, scattered hairs.

### CATKINS

Staminate:

*Shape.*—Cylindrical, dormant stage fairly rigid, blooming stage, pendulous.

*Size.*—Dormant stage length 1.2–2.8 cm, average 2.0 cm. Blooming stage 4.2–8.4 cm, average 6.4 cm.

Scales:

*Shape.*—Teardrop to diamond-shaped, dormant stage.

*Color.*—RHS 200D (brown) to RHS 6C/D (yellow).

Pistillate:

*Shape.*—Cylindrical; blooming stage, not pendulous.

*Size.*—Blooming stage 1.2–2.8 cm, average 2.0 cm.

Scales:

*Shape.*—Teardrop to diamond-shaped.

*Color.*—RHS 149A (yellow-green) to RHS 144C (yellow-green).

Timing of appearance, staminate, and pistillate catkins:

*Staminate.*—Develop during summer.

*Pistillate.*—Develop May 5–20.

*Timing of anthesis.*—May 1–15, varies with year.

Fruit: Strobile bearing, many winged nutlets (seeds) which average 5 mm long and 5 mm wide.

*Shape.*—Cylindrical.

*Length.*—2.7–4.2 cm, average 3.6 cm.

*Width.*—0.6–0.8 cm, average 0.7 cm.

*Color.*—Yellow-green (RHS 146C), changing to brown in the fall.

### INSECT AND DISEASE RESISTANCE

No evidence of bronze birch borer attack in 29 years of evaluation in large birch collection in the NDSU Research Arboretum where borer population and death of other birch accessions has been high. Resistance to birch leaf miner has been good to date.

### COMPARISON WITH MOST SIMILAR CULTIVAR

Of the many commercial birch trees known to the applicant, the most similar in comparison to 'VerDale' are the other introduced *Betula platyphylla* cultivars, such as *Betula platyphylla* 'Fargo' (U.S. Plant Pat. No. 10,963). The latter cultivar tends to have somewhat smaller and glossier leaves compared to 'Verdale' and it produces a narrow, columnar growth habit. The mature height of 'Fargo' is also less than 'VerDale'. In comparison to 'Fargo', 'VerDale' has a number of important attributes such as being highly bronze birch borer (*Agrilus anxius* Gory) resistant. The bark on stems of 'VerDale' begin changing to whitish at 8–15 mm in diameter. 'VerDale' has quality dark green foliage and excellent golden-yellow autumn foliage coloration. 'VerDale' has good resistance to birch leaf miner (*Fenusa pusilla* Lepeletier) and is very winterhardy (withstanding winter temperatures of –35° to –40° C).

What is claimed is:

1. A new and distinct *Betula platyphylla* birch tree as shown and described herein.

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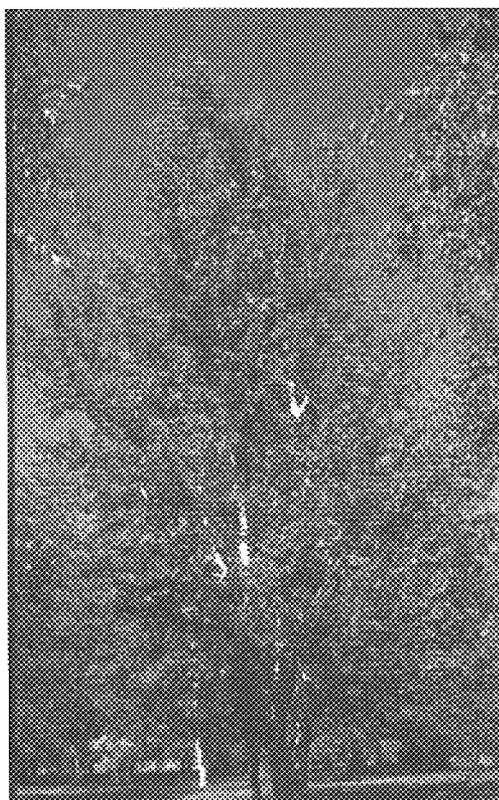


FIG. 1



FIG. 2



FIG. 3



FIG. 4