

UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 6  
TO  
FORM S-3  
REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

QUANEX CORPORATION  
(Exact name of registrant as specified in its charter)

DELAWARE  
(State or other jurisdiction of  
incorporation or organization)

38-1872178  
(I.R.S. Employer  
Identification No.)

1900 WEST LOOP SOUTH, SUITE 1500  
HOUSTON, TEXAS 77027  
(713) 961-4600

(Address, including zip code, and telephone number, including area code, of  
registrant's principal executive offices)

KEVIN P. DELANEY  
1900 WEST LOOP SOUTH, SUITE 1500  
HOUSTON, TEXAS 77027  
(713) 961-4600

(Name, address, including zip code, and telephone number, including area code,  
of agent for service)

Copy to:  
HARVA R. DOCKERY  
FULBRIGHT & JAWORSKI L.L.P.  
1301 MCKINNEY, SUITE 5100  
HOUSTON, TX 77010  
(713) 651-5151

APPROXIMATE DATE OF COMMENCEMENT OF PROPOSED SALE TO THE PUBLIC: This  
post-effective amendment deregisters those securities that remain unsold  
hereunder as of the effective date hereof.

If the only securities being registered on this Form are being offered  
pursuant to dividend or interest reinvestment plans, please check the following  
box. [ ]

If any of the securities being registered on this Form are to be offered on  
a delayed or continuous basis pursuant to Rule 415 under the Securities Act of  
1933, other than securities offered only in connection with dividend or interest  
reinvestment plans, check the following box. [ ]

If this Form is filed to register additional securities for an offering  
pursuant to Rule 462(b) under the Securities Act of 1933, please check the  
following box and list the Securities Act registration statement number of the  
earlier effective registration statement for the same offering. [ ]

If this Form is a post-effective amendment filed pursuant to Rule 462(c)  
under the Securities Act, check the following box and list the Securities Act  
registration statement number of the earlier effective registration statement  
for the same offering. [ ]

If this Form is a registration statement pursuant to General Instruction  
I.D. or a post-effective amendment thereto that shall become effective upon  
filing with the Commission pursuant to Rule 462(e) under the Securities Act,  
check the following box. [ ]

If this Form is a post-effective amendment to a registration statement  
filed pursuant to General Instruction I.D. thereto filed to register additional  
securities or additional classes of securities pursuant to Rule 413(b) under the  
Securities Act, check the following box. [ ]

THIS POST-EFFECTIVE AMENDMENT SHALL BECOME EFFECTIVE IN ACCORDANCE WITH SECTION  
8(C) OF THE SECURITIES ACT OF 1933, AS AMENDED, ON SUCH DATE AS THE SECURITIES  
AND EXCHANGE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(C), MAY DETERMINE.

## DEREGISTRATION OF SECURITIES

On July 6, 2004, Quanex Corporation ("Quanex") filed a registration statement on Form S-3 (file no. 333-117183) (the "Registration Statement"), as amended by Amendment No. 1 filed on September 24, 2004; Amendment No. 2 filed on October 26, 2004; Post-Effective Amendment No. 1 filed on January 6, 2005; Post-Effective Amendment No. 2 filed on March 16, 2005; Post-Effective Amendment No. 3 filed on June 9, 2005; and Post-Effective Amendment No. 4 filed on January 9, 2006, for the issuance and sale of \$125,000,000 aggregate principal amount of 2.50% Convertible Senior Debentures due May 15, 2034 (the "Debentures") and the common stock of Quanex, par value \$0.50 per share, initially issuable upon conversion of the Debentures (the "Common Stock").

Quanex filed the Registration Statement pursuant to the terms of a registration rights agreement dated May 5, 2004, between Quanex and the initial purchasers of the Debentures in a private placement transaction (the "Registration Rights Agreement"). On June 22, 2006, Quanex filed Post-Effective Amendment No. 5 for the purpose of deregistering all of the aggregate principal amount of the Debentures and the shares of Common Stock issuable upon conversion thereof that remained unsold under the Registration Statement as a result of the expiration of Quanex's obligation to maintain the effectiveness of the Registration Statement pursuant to the Registration Rights Agreement.

Quanex is filing this Post-Effective Amendment No. 6 to the Registration Statement in order to disclose the aggregate principal amount of the Debentures to be deregistered. In accordance with the undertaking contained in the Registration Statement pursuant to Item 512(a)(3) of Regulation S-K, Quanex hereby deregisters \$40,780,000 aggregate principal amount of the Debentures and the shares of Common Stock issuable upon conversion thereof that remain unsold under the Registration Statement.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, Quanex certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Post-Effective Amendment No. 6 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Houston, State of Texas, on the 20th day of November, 2006.

QUANEX CORPORATION

By: /s/ KEVIN P. DELANEY

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Kevin P. Delaney  
Senior Vice President-General  
Counsel and Secretary

Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment No. 6 to the Registration Statement has been signed by the following persons in the capacities indicated on the 20th day of November, 2006.

SIGNATURE

TITLE

----- SIGNATURE	TITLE -----
* ----- Raymond A. Jean	Chairman of the Board of Directors, President and Chief Executive Officer (principal executive officer)
/s/ THOMAS M. WALKER ----- Thomas M. Walker	Senior Vice President-Chief Financial Officer (principal financial officer)
/s/ BRENT L. KORB ----- Brent L. Korb	Vice President--Corporate Controller (principal accounting officer)
* ----- Vincent R. Scorsone	Director
* ----- Joseph J. Ross	Director
* ----- Richard L. Wellek	Director
* ----- Donald G. Barger, Jr.	Director
* ----- Susan F. Davis	Director

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Russell M. Flaum

Director

\*By /s/ KEVIN P. DELANEY

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Kevin P. Delaney  
Attorney-in-Fact