

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

POST-EFFECTIVE AMENDMENT NO. 5
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" and together with the Debentures, the "Securities").

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").

In accordance with the undertaking contained in the Registration Statement pursuant to Item 512(a)(3) of Regulation S-K, Quanex is filing this Post-Effective Amendment No. 5 to the Registration Statement in order to remove from registration all of the aggregate principal amount of the Debentures and the shares of Common Stock issuable upon conversion thereof that remain unsold under the Registration Statement as of the date hereof. Quanex seeks to deregister these Securities because its obligation to maintain the effectiveness of the Registration Statement pursuant to the Registration Rights Agreement has expired.

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. 5 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 22nd day of June, 2006.

QUANEX CORPORATION

By: /s/ KEVIN P. DELANEY

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. 5 to the Registration Statement has been signed by the following persons in the capacities indicated on the 22nd day of June, 2006.

SIGNATURE	TITLE
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* ----- 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
* ----- Russell M. Flaum	Director

*By /s/ KEVIN P. DELANEY

Kevin P. Delaney
Attorney-in-Fact