
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 11-K

Annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934

For the fiscal year ended December 31, 2004

Commission File Number 1-5725

A. Full title of the plan and the address of the plan, if different from that of the issuer named below:

Quanex Corporation Piper Impact 401(k) Plan

B. Name of the issuer of the securities held pursuant to the plan and the address of its principal executive office:

**Quanex Corporation
1900 West Loop South, Suite 1500
Houston, TX 77027**

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Benefits Committee
Quanex Corporation
Houston, TX

RE: Piper Impact 401(k) Plan

We have audited the accompanying statements of net assets available for benefits of the Piper Impact 401(k) Plan (the "Plan") as of December 31, 2004 and 2003, and the related statements of changes in net assets available for benefits for the years then ended. These financial statements are the responsibility of the Plan's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Plan is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plan's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, such financial statements present fairly, in all material respects, the net assets available for benefits of the Plan as of December 31, 2004 and 2003, and the changes in net assets available for benefits for the years then ended in conformity with accounting principles generally accepted in the United States of America.

Our audits were conducted for the purpose of forming an opinion on the basic financial statements taken as a whole. The supplemental schedule of assets (held at end of year) as of December 31, 2004 is presented for the purpose of additional analysis and is not a required part of the basic financial statements, but is supplementary information required by the Department of Labor's Rules and Regulations for Reporting and Disclosure under the Employee Retirement Income Security Act of 1974. This schedule is the responsibility of the Plan's management. Such schedule has been subjected to the auditing procedures applied in our audit of the basic 2004 financial statements and, in our opinion, is fairly stated in all material respects when considered in relation to the basic financial statements taken as a whole.

/s/ DELOITTE & TOUCHE, LLP
DELOITTE & TOUCHE LLP

Houston, Texas
June 24, 2005

**QUANEX CORPORATION
PIPER IMPACT 401(k) PLAN**

STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS

DECEMBER 31,

	2004	2003
Assets:		
Investments at fair value (see Note C)	\$ 5,744,691	\$ 6,982,082
Participant loans	212,747	351,079
Employee contributions receivable	27,963	40,771
Employer contributions receivable	5,981	7,896
	<u>33,944</u>	<u>48,667</u>
Net assets available for benefits	<u>\$ 5,991,382</u>	<u>\$ 7,381,828</u>

See notes to financial statements.

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**QUANEX CORPORATION
PIPER IMPACT 401(k) PLAN**

**STATEMENTS OF CHANGES IN NET ASSETS AVAILABLE
FOR BENEFITS**

	DECEMBER 31,	
	2004	2003
Investment income:		
Interest and dividends	\$ 119,918	\$ 105,080
Net appreciation in fair value of investments (see Note C)	405,469	1,168,823
	<u>525,387</u>	<u>1,273,903</u>
Contributions:		
Employer (net of forfeitures)	76,887	75,566
Employee	402,242	638,338
	<u>479,129</u>	<u>713,904</u>
Interest on participant loans	13,473	23,552
Total additions	<u>1,017,989</u>	<u>2,011,359</u>
Benefit payments	2,404,799	1,797,853
Administrative fees (see Note D)	3,636	5,706
Total deductions	<u>2,408,435</u>	<u>1,803,559</u>
Increase (decrease) in net assets available for benefits	(1,390,446)	207,800
Net assets available for benefits:		
Beginning of year	7,381,828	7,174,028
End of year	<u>\$ 5,991,382</u>	<u>\$ 7,381,828</u>

See notes to financial statements.

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**QUANEX CORPORATION
PIPER IMPACT 401(k) PLAN
EIN: 38-1872178; PN 001**

**Schedule H, Line 4i – Schedule of Assets (Held at End of Year)
December 31, 2004**

(a)	(b) Identity of issue, borrower, lessor or similar party	(c) Description of investment including maturity date, rate of interest, collateral, par, or maturity value	(d) Cost	(e) Current Value
*	Fidelity	Puritan Fund	\$ 681,784	\$ 708,295
*	Fidelity	Magellan Fund	184,613	182,314
*	Fidelity	Contrafund	751,117	882,111
*	Fidelity	Growth & Income Fund	79,316	83,576
*	Fidelity	Independence Fund	392,466	393,775
*	Fidelity	Overseas Fund	47,471	52,967
*	Fidelity	Balanced Fund	86,232	97,523
*	Fidelity	Blue Chip Fund	1,669,631	1,666,654
*	Fidelity	Asset Manager Fund	246,229	241,196
*	Fidelity	Low-Priced Stock Fund	168,655	220,790
*	Fidelity	Government Money Market Fund	478,789	478,789

Templeton	Foreign Fund	46,662	51,137
Neuberger & Berman	Partners Trust Fund	3,588	4,208
	Total Mutual Fund Assets	4,836,553	5,063,335
* Quanex Corporation	Unitized common stock	117,238	247,801
* Fidelity	Common/Commingled trust	433,555	433,555
Participant loans	Loan maturing within 1.5 to 5 years, bearing interest at 5.0% to 10.5%		212,747
	Total Investments	\$ 5,387,346	\$ 5,957,438

* Party-in-Interest

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**QUANEX CORPORATION
PIPER IMPACT 401(k) PLAN**

**NOTES TO FINANCIAL STATEMENTS
YEARS ENDED DECEMBER 31, 2004 AND 2003**

A. DESCRIPTION OF THE PLAN

The following description of the Piper Impact 401(k) Plan (the "Plan") provides only general information. Participants should refer to the Plan document for a more complete description of the Plan's provisions.

- (1) **General.** The Plan is a defined contribution plan which covers substantially all full-time employees of Piper Impact, a division of Quanex Corporation (the "Company"). The Plan is subject to the provisions of the Employee Retirement Income Security Act of 1974 ("ERISA"). The assets of the Plan are held in trust by Fidelity Management Trust Company ("Fidelity" or the "Trustee"). The Benefits Committee (the "Committee"), appointed by Quanex Corporation's Board of Directors, serves as the Plan administrator.
- (2) **Contributions.** Participants may contribute to the Plan by electing salary deferrals up to 50% of their before-tax compensation as defined by the Plan document. The Company contributes 25% of the first 6% of base compensation that a participant contributes to the Plan. Contributions are subject to certain limitations.
- (3) **Participant Accounts.** Each participant's account is credited with the participant's contribution and allocations of the Company's contribution and Plan earnings, and charged with an allocation of administrative expenses. Allocations are based on participant earnings or account balances, as defined by the plan. The benefit to which a participant is entitled is the benefit that can be provided from the participant's vested account.
- (4) **Vesting and Forfeitures.** Participants are immediately vested in their contributions and earnings thereon. Vesting in the Company's matching and discretionary contribution portion of their accounts plus actual earnings thereon is based on years of continuous service. A participant is 20% vested for each year of credited service beginning with his or her first year and is 100% vested after five years of credited service. Forfeited balances of terminated participants' non-vested accounts are used to reduce current or future Company contributions. Amounts forfeited during 2004 and 2003 were \$13,586 and \$52,674, respectively. The amount available for use in the forfeiture account totaled \$10,566 and \$1,792 at December 31, 2004 and 2003, respectively.
- (5) **Payment of Benefits.** The Plan is intended for long-term savings but provides for early withdrawals and loan arrangements under certain conditions. In accordance with the Code, upon termination of service, a participant may elect to receive a lump-sum distribution equal to the total amount of vested benefits in his or her account. Terminated participants with an account balance of less than \$1,000 will automatically receive a lump sum distribution (\$5,000 before March 28, 2005).
- (6) **Loans.** Loans may be granted to a participant of the Plan at the Committee's discretion. Loan terms range up to five years or seven years if used for the purchase of a primary residence. Loans mature within 1.5 to 5 years and bear interest at 5% to 10.5%. Interest on a participant's loan is allocated to the borrower's account.

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B. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

- (1) **Accounting Basis.** The financial statements of the Plan are prepared on the accrual basis of accounting in accordance with accounting principles generally accepted in the United States of America.
- (2) **Investment Valuation.** The Plan recognizes net appreciation or depreciation in the fair value of its investments. Investments are reflected at fair value in the financial statements. Fair value of mutual fund assets is determined using a quoted net asset value. Fair value for Quanex Corporation common stock, which is listed on the New York Stock Exchange, is determined by using the last recorded sales price. The recorded value of the common/commingled trust is at face value, which is fair value.

Purchases and sales of securities are recorded on a trade-date basis. Interest income is recorded on the accrual basis. Dividends are recorded on the ex-dividend date.

Management fees and operating expenses charged to the Plan for investments in the mutual funds are deducted from income earned on a daily basis and are not separately reflected. Consequently, management fees and operating expenses are reflected as a reduction of investment return for such investments.

- (3) Use of Estimates. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and changes therein and disclosure of contingent assets and liabilities. Actual results could differ from these estimates.
- (4) Administrative Expenses. The Company pays the administrative expenses of the Plan, except loan set up and carrying fees and redemption fees imposed on certain Fidelity funds.
- (5) Payment of Benefits. Benefit payments are recorded when paid.
- (6) Risks and Uncertainties. The Plan utilizes various investment instruments, including mutual funds and common stock. Investment securities, in general, are exposed to various risks, such as interest rate, credit, and overall market volatility. Due to the level of risk associated with certain investment securities, it is reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in the financial statements.

C. INVESTMENTS

The following are investments that represent 5 percent or more of the Plan's investments.

	December 31, 2004		December 31, 2003	
	Shares	Amount	Shares	Amount
Fidelity Blue Chip Fund	39,958	\$ 1,666,654	52,146	\$ 2,066,538
Fidelity Contrafund	15,547	882,111	19,837	978,967
Fidelity Puritan Fund	37,377	708,295	36,586	675,737
Fidelity Government Money Market Fund	478,789	478,789	802,369	802,369
Fidelity Managed Income Portfolio	433,555	433,555	683,736	683,736
Fidelity Independence Fund	22,085	393,775	33,303	534,843

During the years ended December 31, 2004 and 2003, the Plan's investments (including gains and losses on investments bought and sold, as well as held during the year) appreciated in value as follows:

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	2004	2003
Mutual funds	\$ 320,713	\$ 1,057,895
Quanex unitized common stock	84,756	110,928
	<u>\$ 405,469</u>	<u>\$ 1,168,823</u>

D. RELATED PARTY TRANSACTIONS

Certain Plan investments are shares of mutual funds managed by Fidelity. Fidelity is the trustee as defined by the Plan and, therefore, these transactions qualify as party-in-interest transactions. Fees paid by the Plan for the investment management services amounted to \$3,636 and \$5,706 for the years ended December 31, 2004 and 2003, respectively. In addition, the Plan invests in shares of Quanex Corporation unitized common stock. Quanex Corporation is the Plan sponsor as defined by the Plan and, therefore, these transactions also qualify as party-in-interest transactions. As of December 31, 2004 and 2003, the value of Quanex Corporation unitized common stock held by the Plan was \$247,801 and \$362,067, respectively.

E. PLAN TERMINATION

Although it has not expressed any intention to do so, the Company has the right under the Plan to terminate the Plan at any time subject to the provisions set forth in ERISA. In the event of Plan termination, the assets held by the Trustee under the Plan will be valued and fully vested, and each participant will be entitled to distributions respecting his or her account.

F. FEDERAL INCOME TAX STATUS

The Plan is subject to specific rules and regulations related to employee benefit plans under the Department of Labor and the Internal Revenue Service. The Plan has received a favorable letter of tax determination dated August 19, 2002. As such, the Plan is qualified under Section 401(a) of the Internal Revenue Code (the "Code") and, as a result, the trust is exempt from federal income tax under Section 501(a) of the Code. Although the Plan has been amended since receiving the determination letter, the Company believes the Plan is currently designed and being operated in compliance with the applicable requirements of the Code. The Company believes the Plan was qualified and the related trust was tax-exempt as of the financial statement dates.

G. SUBSEQUENT EVENT

On January 25, 2005 most of the assets of the Piper Impact division were sold and all but one of the employees were terminated. Those employees with unvested balances in their account who were terminated on the date of sale were fully vested by the Company. Employees with account balances of less than \$1,000 received an automatic distribution unless they decided to rollover their account balance into an IRA. Employees with account balances in excess of \$1,000 had the option of leaving their balance in the Plan, rolling their account balance into an IRA, or taking an immediate distribution.

SIGNATURES

The Plan. Pursuant to the requirements of the Securities Exchange Act of 1934, the trustees (or other persons who administer the employee benefit plan) have duly caused this annual report to be signed on its behalf by the undersigned hereunto duly authorized.

Quanex Corporation Piper Impact 401(k) Plan

Date: June 27, 2005

/s/ Terry M. Murphy

Terry M. Murphy, Benefits Committee

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INDEX TO EXHIBITS

23.1 Consent of Independent Registered Public Accounting Firm

99.1 Certification by chief executive officer and chief financial officer pursuant to Section 906 of the Sarbanes-Oxley Act of 2002

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CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in Registration Statement No. 333-22977 of Quanex Corporation on Form S-8 of our report dated June 24, 2005, appearing in this Annual Report on Form 11-K of the Quanex Corporation Piper Impact 401(k) Plan for the year ended December 31, 2004.

/s/ DELOITTE & TOUCHE LLP
DELOITTE & TOUCHE LLP

Houston, Texas
June 24, 2005

CERTIFICATION PURSUANT TO SECTION 906
OF THE SARBANES-OXLEY ACT OF 2002

We hereby certify that the accompanying Report of Quanex Corporation Piper Impact 401(k) Plan (the "Plan") on Form 11-K for the year ended December 31, 2004 fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 and that information contained in such Report fairly presents, in all material respects, the financial condition and results of operations of the Plan.

June 27, 2005

/s/ RAYMOND A. JEAN

Raymond A. Jean
*Chairman of the Board, President and
Chief Executive Officer*

/s/ TERRY M. MURPHY

Terry M. Murphy
*Senior Vice President—Finance and
Chief Financial Officer*
