

# 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, 2003**

**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 Employee Savings 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

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

The Benefits Committee  
Quanex Corporation  
Houston, Texas

Re: Quanex Corporation Employee Savings Plan

We have audited the accompanying statements of net assets available for benefits of the Quanex Corporation Employee Savings Plan ("the Plan") as of December 31, 2003 and 2002, 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 the 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. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes 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, 2003 and 2002, 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 accompanying supplemental schedule of assets (held at end of year) as of December 31, 2003 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. The supplemental schedule is the responsibility of the Plan's management. This supplemental schedule has been subjected to the auditing procedures applied in our audits of the basic financial statements and, in our opinion, are fairly stated in all material respects when considered in relation to the basic financial statements taken as a whole.

/s/ DELOITTE & TOUCHE, LLP

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DELOITTE & TOUCHE, LLP

Houston, Texas  
June 23, 2004

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**QUANEX CORPORATION  
EMPLOYEE SAVINGS PLAN**

**STATEMENTS OF NET ASSETS AVAILABLE FOR BENEFITS**

	DECEMBER 31,	
	2003	2002
<b>Assets:</b>		
Investments at fair value (see Note C)	\$ 39,733,499	\$ 32,058,143
Employee contributions receivable	342,945	356,244
Employer contributions receivable	101,004	113,299
	<u>443,949</u>	<u>469,543</u>
Net assets available for benefits	<u>\$ 40,177,448</u>	<u>\$ 32,527,686</u>

See notes to financial statements.

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**QUANEX CORPORATION  
EMPLOYEE SAVINGS PLAN**

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

	DECEMBER 31,	
	2003	2002
<b>Investment income:</b>		
Interest and dividends	\$ 535,886	\$ 514,757
Net appreciation (depreciation) in fair value of investments (see Note C)	6,528,652	(4,621,304)
	7,064,538	(4,106,547)
<b>Contributions:</b>		
Employer (net of forfeitures)	563,242	602,697
Employee	2,769,718	2,393,260
	3,332,960	2,995,957
<b>Total additions</b>	<b>10,397,498</b>	<b>(1,110,590)</b>
<b>Benefit payments</b>	<b>2,968,828</b>	<b>4,082,674</b>
<b>Administrative fees (see Note D)</b>	<b>80</b>	<b>34</b>
<b>Total deductions</b>	<b>2,968,908</b>	<b>4,082,708</b>
<b>Transfers between plans (see Note G)</b>	<b>221,172</b>	<b>343,202</b>
<b>Decrease in net assets available for benefits</b>	<b>7,649,762</b>	<b>(4,850,096)</b>
<b>Net assets available for benefits:</b>		
Beginning of year	32,527,686	37,377,782
<b>End of year</b>	<b>\$ 40,177,448</b>	<b>\$ 32,527,686</b>

See notes to financial statements.

**QUANEX CORPORATION**  
**EMPLOYEE SAVINGS PLAN**  
**EIN: 38-1872178; PN 012**

**Schedule H, Line 4i — Schedule of Assets (Held at End of Year)**  
**December 31, 2003**

(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	\$ 3,913,070	\$ 4,175,069
*	Fidelity	Magellan Fund	7,735,117	7,911,776
*	Fidelity	Contrafund	4,025,948	4,170,182
*	Fidelity	Growth & Income Fund	3,592,640	3,575,480
*	Fidelity	Independence Fund	2,989,722	2,409,062
*	Fidelity	Overseas Fund	1,343,639	1,397,221
*	Fidelity	Balanced Fund	916,173	1,020,368
*	Fidelity	Blue Chip Fund	2,309,222	2,174,709
*	Fidelity	Asset Manager Fund	398,514	391,839
*	Fidelity	Low-Priced Stock Fund	3,092,545	3,779,001
*	Fidelity	Government Money Market Fund	5,038,268	5,038,268
	Templeton	Foreign Fund	\$ 393,092	\$ 435,839
	Neuberger & Berman	Partners Trust Fund	114,881	120,556
		Total Mutual Fund Assets	35,862,831	36,599,370
*	Quanex Corporation	Unitized common stock	981,736	1,599,317
*	Fidelity	Managed Income Portfolio	1,534,812	1,534,812
		Total Investments	\$ 38,379,379	\$ 39,733,499

\* Party-in-Interest

**QUANEX CORPORATION  
EMPLOYEE SAVINGS PLAN**

**NOTES TO FINANCIAL STATEMENTS**

**YEARS ENDED DECEMBER 31, 2003 AND 2002**

**A. DESCRIPTION OF THE PLAN**

The following brief description of the Quanex Corporation Employee Savings Plan (the "Plan") provides only general information. Participants should refer to the Plan agreement for more complete information.

- (1) *General.* The Plan is a defined contribution plan which covers employees of the Company's MACSTEEL and Corporate office divisions, excluding those employees who are covered by a collective bargaining agreement. The Plan is subject to the Employee Retirement Income Security Act of 1974 ("ERISA"). Fidelity Management Trust Company ("Fidelity" or the "Trustee") holds the assets of the Plan in trust. The Benefits Committee (the "Committee"), appointed by the Company's Board of Directors, serves as the Plan administrator.
- (2) *Contributions.* Participants may elect to contribute up to 50% of their compensation as defined by the Plan agreement on either a pre-tax or after-tax basis. The Company contributes 50% of the first 5% of compensation that a participant contributes to the Plan.
- (3) *Participants Account.* Each participant's account is credited with the participant's contribution; the Company's matching contribution, and an allocation of investment income, which is based on the participant's account balance as of the end of the period in which the income is earned.
- (4) *Vesting and Forfeitures.* Participants are immediately vested in their voluntary contributions and the related earnings. Vesting in the employer's matching contributions for employees is 20% for each year of credited service and fully vests after five years. Upon death, retirement or total and permanent disability, the participant or beneficiary becomes immediately fully vested in the employer's contribution. In the event of termination, nonvested portions of employer's contributions are immediately forfeited by participants and utilized to reduce future employer matching contributions. Amounts forfeited during 2003 and 2002 were \$13,857 and \$15,248, respectively. There were \$0 and \$679 available for use in the forfeiture account at December 31, 2003 and 2002, respectively.
- (5) *Payment of Benefits.* Upon termination of service, the participant may elect to receive a lump-sum amount equal to the amount of vested benefits in his or her account. Terminated employees with an account balance of less than \$5,000 will automatically receive a lump sum distribution.

**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 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.

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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, except for 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 net assets available for benefits.

	December 31, 2003		December 31, 2002	
	Shares	Amount	Shares	Amount
Fidelity Puritan Fund	226,046	\$ 4,175,069	227,812	\$ 3,597,150
Fidelity Magellan Fund	80,947	7,911,776	78,628	6,208,449
Fidelity Contrafund	84,502	4,170,182	80,443	3,105,092
Fidelity Growth & Income Fund	100,350	3,575,480	98,787	2,994,220
Fidelity Independence Fund	150,004	2,409,062	172,068	2,248,935
Fidelity Blue Chip Fund	54,875	2,174,709	*44,879	*1,433,434
Fidelity Low-Priced Stock Fund	108,011	3,779,001	92,405	2,325,835
Fidelity Government Money Market Fund	5,038,268	5,038,268	5,303,019	5,303,019
* presented for comparative purposes only				

During the years ended 2003 and 2002, the Plan's investments (including gains and losses on investments bought and sold, as well as held during the year) appreciated / (depreciated) in value as follows:

	2003	2002
Mutual funds	\$ 6,042,912	\$ (5,024,195)
Quanex unitized common stock	485,740	402,891
	\$ 6,528,652	\$ (4,621,304)

## 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. 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, 2003 and 2002, the value of Quanex Corporation common stock held by the Plan was \$1,599,317 and \$1,240,542, 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 14, 2001. As such, the Plan is a qualified trust under Sections 401(a) and 401(k) of the Internal Revenue Code (the "Code") and, as a result, is exempt from federal income tax under Section 501(a) of the Code. 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. TRANSFER OF ASSETS

Account balances of \$221,172 and \$343,202 were transferred between the Plan and the Quanex Corporation Hourly Bargaining Unit Employees Savings Plan in plan years 2003 and 2002, respectively.

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**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 Employee Savings Plan

Date: June 28, 2004

/s/ Ricardo Arredondo

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Ricardo Arredondo, 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. 33-38702 of Quanex Corporation on Form S-8 of our report dated June 23, 2004, appearing in this Annual Report on Form 11-K of the Quanex Corporation Employee Savings Plan for the year ended December 31, 2003.

/s/ DELOITTE & TOUCHE, LLP

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DELOITTE & TOUCHE, LLP

Houston, Texas

June 23, 2004

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QuickLinks

[Exhibit 23.1](#)

[CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM](#)

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

We hereby certify that the accompanying Report of Quanex Corporation Employee Savings Plan (the "Plan") on Form 11-K for the year ended December 31, 2003 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 28, 2004

/s/ RAYMOND A. JEAN

/s/ TERRY M. MURPHY

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

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

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QuickLinks

[Exhibit 99.1](#)

[CERTIFICATION PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002](#)