

SECURITIES AND EXCHANGE COMMISSION

FORM 13F-HR

Initial quarterly Form 13F holdings report filed by institutional managers

Filing Date: **2006-05-08** | Period of Report: **2006-03-31**
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FILER

GREENLEAF CAPITAL MANAGEMENT /OH/

CIK: **811458** | IRS No.: **341186795** | State of Incorporation: **OH**
Type: **13F-HR** | Act: **34** | File No.: **028-01986** | Film No.: **06815934**

Mailing Address
20600 CHAGRIN BLVD
803 TOWER EAST BLDG
SHAKER HTS OH 44122

Business Address
20600 CHAGRIN BLVD 803
TOWER EAST
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2167528900

FORM 13F

FORM 13F COVER PAGE

Report for the Calendar Year or Quarter Ended: March 31, 2006

Check here if Amendment []; Amendment Number:

This Amendment (Check only one.): [] is a restatement
[] adds new holdings

entries.

Institutional Investment Manager Filing this Report:

Name: Greenleaf Capital Management
803 Tower East
20600 Chagrin Blvd.
Shaker Heights, OH 44122

13-F File Number:

The institutional investment manager filing this report and the person

by who it is signed hereby represent that the person signing the report is authorized to submit it, that all information contained herein is true, correct and complete, and that it is understood that

all required items, statements, schedules, lists and tables, are considered integral parts of this form.

Person signing this Report on Behalf of Reporting Manager:

Name: Geoffrey J. Greenleaf
Title: Chairman and President
Phone: (216) 752-8900

Signature, Place, and Date of Signing:
Geoffrey J. Greenleaf Shaker Heights, OH September 30, 2005

Report Type (Check only one.):

[X] 13F HOLDINGS REPORT.
[] 13F NOTICE.
[] 13F COMBINATION REPORT.

List of Other Managers Reporting for this Manager:

I AM SIGNING THIS REPORT AS REQUIRED BY THE SECURITIES EXCHANGE ACT OF 1934.

FORM 13F SUMMARY PAGE

REPORT SUMMARY:

Number of Other Included Managers: 0
Form 13F Information Table Entry Total: 141
Form 13F Information Table Value Total: \$190,897

List of Other Included Managers:

No. 13F File Number Name

<TABLE>
<CAPTION>

Item 1: Name of Issuer	Item 2: Number	Item 3: Title of Class Value Amount	Item 4: CUSIP Principal	Item 5: Fair Market (a) Sole in Instr. V	Item 6: Investment Discretion			Item 7: Managers (a) Sole	Voting Authority (Shares)	
					(b) Shared-	(c) Shared-	(d) Shared-		(b) Shared	(c) None
<S>	<C>	<C>	<C>	<C>	<C>	<C>	<C>	<C>	<C>	<C>
3M Co.	Common	88579Y101	333.7	4,408	4,408				4,408	
Abbott Laboratories	Common	002824100	1,443.9	33,997	33,997				33,997	
AllianceBernstein Holding L.P.	Unit L.P. Int.	01881G106	806.6	12,175	12,175				12,175	
Allied Capital Corp.	Common	01903Q108	1,994.1	65,168	65,168				65,168	
Allstate Corp.	Common	020002101	992.5	19,046	19,046				19,046	
American Capital Strategies	Common	024937104	1,527.1	43,434	43,434				43,434	
Amgen Inc.	Common	031162100	2,978.3	40,939	40,939				40,939	
AngloGold Ashanti Ltd- Spon	ADR	Sponsored	035128206	1,236.1	22,840			22,840		22,840
Apex Silver Mines Ltd.	ORD	G04074103	263.0	11,075	11,075				11,075	
Atlas Pipeline Partners, L.P.	Unit L.P. Int.	049392103	2,593.4	61,310	61,310				61,310	
Automatic Data Processing	Common	053015103	201.5	4,411	4,411				4,411	
Avery Dennison	Common	053611109	2,181.1	37,296	37,296				37,296	
Bank of America Corp.	Common	060505104	355.3	7,802	7,802				7,802	
Bank of New York Co., Inc.	Common	064057102	718.3	19,930	19,930				19,930	
Berkshire Hathaway CL B	CL B	084670207	1,527.1	507	507				507	
BP PLC - Spon	ADR	Common	055622104	4,721.4	68,486			68,486		
Buckeye Partners, LP	Unit Ltd Partn	118230101	595.4	13,940	13,940				13,940	
Burlington Resources, Inc.	Common	122014103	969.7	10,550	10,550				10,550	
Cedar Fair	Dep. Unit	150185106	3,161.1	108,072	108,072				108,072	
CareMark RX Inc.	Common	141705103	233.6	4,749	4,749				4,749	
Cheesecake Factory	Common	163072101	1,223.9	32,681	32,681				32,681	
Chevron Corp	Common	166764100	447.8	7,724	7,724			7,724		
Church & Dwight Co., Inc.	Common	171340102	2,806.4	76,013	76,013				76,013	
Cisco Systems	Common	17275R102	3,305.4	152,532	152,532				152,532	
CitiGroup Inc.	Common	172967101	3,110.6	65,860	65,860				65,860	
Cleveland-Cliffs	Common	185896107	483.0	5,544	5,544				5,544	
Coeur D'alene Mines Corp.	Common	192108108	141.9	21,625	21,625				21,625	
ConocoPhillips	Common	20825C104	1,048.4	16,601	16,601				16,601	
Developers Diversified Realty	Common	251591103	1,793.4	32,757	32,757				32,757	
Dow Chemical	Common	260543103	2,345.3	57,676	57,676				57,676	
Duke Energy Corp.	Common	264399106	3,861.1	132,456	132,456				132,456	
Duke Realty Corp.	Common	264411505	1,221.6	32,189	32,189				32,189	
Ecolab Inc.	Common	278865100	1,566.7	41,012	41,012				41,012	
Education Management Corp.	Common	28139T101	1,460.2	35,100	35,100				35,100	
Enpath Medical Inc.	Common	29355Y105	1,783.9	182,029	182,029				182,029	
Enterprise Products Part. L.P.	Common	293792107	1,294.4	52,425	52,425				52,425	
Estee Lauder Co. - CL A	CL A	518439104	1,092.7	29,382	29,382				29,382	
Everest Re Group, Ltd.	Common	G3223R108	293.6	3,145	3,145				3,145	
Expeditors Int'l Wash.	Common	302130109	1,592.6	18,435	18,435				18,435	
Express Scripts, Inc.	Common	302182100	596.4	6,785	6,785				6,785	
Exxon Mobil Corp.	Common	30231G102	5,565.0	91,440	91,440				91,440	
Federated Department Stores, Inc	Common	31410H101	986.4	13,512	13,512				13,512	
Fedex Corp.	Common	31428X106	1,002.3	8,875	8,875				8,875	
First Data Corp.	Common	319963104	3,222.7	68,831	68,831				68,831	
FirstEnergy Corp.	Common	337932107	243.9	4,987	4,987				4,987	
General Electric	Common	369604103	4,863.2	139,827	139,827				139,827	
Genworth Financial Inc.-CL A	Common	37247D106	2,792.6	83,536	83,536				83,536	
Genzyme	Common	372917104	2,304.2	34,279	34,279				34,279	
Gilead Sciences Inc.	Common	375558103	2,765.1	44,441	44,441				44,441	
Goldman Sachs Group, Inc.	Common	38141G104	746.5	4,756	4,756				4,756	
Harmony Gold Mining Ltd	Sponsored ADR	413216300	458.2	28,855	28,855				28,855	
Heartland Express, Inc.	Common	422347104	272.4	12,500	12,500				12,500	
Home Depot	Common	437076102	268.8	6,354	6,354				6,354	
HSBC Holdings PLC-Spon	ADR	Sponsored ADR	404280406	1,261.4	15,056			15,056		15,056
Hudson City Bancorp, Inc.	Common	443683107	199.4	15,000	15,000				15,000	
IBM	Common	459200101	2,536.2	30,753	30,753				30,753	
Illinois Tool Works	Common	452308109	608.5	6,318	6,318				6,318	
Intel	Common	458140100	1,441.6	74,083	74,083				74,083	
Inverness Medical Innov. Inc.	Common	46126P106	367.0	12,773	12,773				12,773	
Ishares DJ Basic Mat. Index	DJ US Basic Mat	464287838	211.5	3,777	3,777				3,777	
Ishares DJ US Energy Sec Index	DJ US Energy	464287796	207.9	2,256	2,256				2,256	
Ishares Goldman Sachs Semi Index	Gldm Schs Semi	464287523	224.3	3,440	3,440				3,440	
Ishares MSCI Australia Index	MSCI Australia	464286103	843.3	42,125	42,125				42,125	
Ishares MSCI Canada Index	MSCI CDA IDX	464286509	243.6	10,310	10,310				10,310	

Ishares MSCI EAFE Index	MSCI EAFE IDX	464287465	410.3	6,320	6,320		6,320	
Ishares-MSCI Emerg. Mkts	MSCI Emerg Mkt	464287234	1,520.6	15,360	15,360		15,360	
Ishares-MSCI Japan Index	MSCI Japan	464286848	2,608.2	181,125	181,125		181,125	
Ishares-NASDAQ Biotech Index	NASDAQ Bio Indx	464287556	361.6	4,390	4,390		4,390	
Ishares-Russell 2000 Index	Rusl 2000 Valu	464287630	381.7	5,107	5,107		5,107	
Ishares-S&P 500 Index	S&P 500 Index	464287200	204.4	1,573	1,573		1,573	
Ishares-S&P 500/Barra Growth Index	S&P 500 Grw	464287309	811.5	13,325	13,325		13,325	
J.P. Morgan Chase & Co.	Common	46625H100	317.4	7,622	7,622		7,622	
Johnson & Johnson	Common	478160104	734.7	12,407	9,116		12,407	
K-Sea Transn Partners LP	Common	48268Y101	2,522.5	75,299	75,299		75,299	
KeyCorp	Common	493267108	200.2	5,440	5,440		5,440	
Kinder Morgan Energy Partner	UT Ltd Partner	494550106		857.9	17,807		17,807	
Korea Fund	Common	500634100	1,000.2	26,251	26,251		26,251	
Lowe's Cos Inc.	Common	548661107	2,356.8	36,574	36,574		36,574	
Lucent Technologies Inc.	Common	549463107	30.5	10,000	10,000		10,000	
Magellan Midstream Ptnrs LP	Com Unit RP LP	364.77375		527.4	16,045		16,045	
Markwest Energy Partners L.P.	Unit L.P. Int.	1132.56933		365.0	7,800		7,800	
Matria Healthcare Inc.	Common	576817209	506.8	13,350	13,350		13,350	
Maxim Integrated Product	Common	57772K101	1,055.4	28,408	28,408		28,408	
McDonald's	Common	580135101	807.5	23,500	23,500		23,500	
Medtronic Inc.	Common	585055106	2,812.9	55,427	55,427		55,427	
Microsoft	Common	594918104	1,860.6	68,380	68,380		68,380	
Midcap SPDR Trust Ser. I	Unit Ser 1	595635103		551.5	3,810		3,810	
Mine Safety Appliances Co.	Common	602720104	2,503.0	59,595	59,595		59,595	
Morgan Stanley Asia Pacific Fund	Common	61744U106		1,238.7	73,645		73,645	
NASDAQ-100 Shares	Unit Ser 1	631100104	228.1	5,441	5,441		5,441	
Neogen	Common	640491106	3,490.0	142,447	142,447		142,447	
Newmont Mining Corp.	Common	651639106	2,026.0	39,045	39,045		39,045	
Nisource Inc.	Common	65473P105	1,823.7	90,195	90,195		90,195	
Nortel Networks Corp. New	Common	656568102	30.5	10,000	10,000		10,000	
Northrop Grumman Corp.	Common	666807102	1,579.8	23,134	23,134		23,134	
Novartis AG-ADR	Sponsored ADR	66987V109	1,953.5	35,236	35,236		35,236	
Omnicom Group Inc.	Common	681919106	1,841.7	22,123	22,123		22,123	
Oregon Steel Mills, Inc.	Common	686079104	200.6	3,920	3,920		3,920	
Pan American Silver Corp.	Common	697900108	699.1	27,525	27,525		27,525	
Patterson Companies Inc.	Common	703395103	277.2	7,875	7,875		7,875	
Penn Virginia Resource Ptnr.	Common	707884102	2,351.8	40,994	40,994		40,994	
Pentair Int.	Common	709631105	4,104.7	100,729	100,729		100,729	
Pepsico Inc.	Common	713448108	337.9	5,847	5,847		5,847	
PetsMart Inc.	Common	716768106	2,857.3	101,540	101,540		101,540	
Pfizer, Inc.	Common	717081103	2,688.6	107,889	107,889		107,889	
Procter & Gamble	Common	742718109	4,650.2	80,691	80,691		80,691	
Progress Energy Corp	Common	743263105	1,677.8	38,148	38,148		38,148	
Progressive Corp.	Common	743315103	311.9	2,992	2,992		2,992	
Rayonier Inc.	Common	754907103	3,343.4	73,336	73,336		73,336	
Resmed, Inc.	Common	761152107	1,203.8	27,371	27,371		27,371	
Sabine Royalty Trust	Unit Ben Int	785688102	632.2	14,460	14,460		14,460	
Schlumberger	Common	806857108	437.7	3,458	3,458		3,458	
Silver Standard Resources Inc.	Common	82823L106	455.3	22,125	22,125		22,125	
Sovereign Bancorp	Common	845905108	1,009.5	46,076	46,076		46,076	
SPDR Trust Series I	Units Ser. I	78462F103	620.6	4,780	4,780		4,780	
Stericycle Inc.	Common	858912108	217.3	3,214	3,214		3,214	
Streettracks Gold Trust	Gold Shs	863307104	3,126.1	53,806	53,806		53,806	
Stryker Corp.	Common	863667101	325.4	7,339	7,339		7,339	
Symantec	Common	871503108	220.0	13,074	13,074		13,074	
Sunoco Logistics Ptn LP	Common Units	86764L108	1,600.1	38,125	38,125		38,125	
Target Corporation	Common	87612E106	470.6	9,049	9,049		9,049	
TEPPCO Partners L.P.	UT Ltd Partner	872384102		1,025.4	28,255		28,255	
Texas Instruments	Common	882508104	393.9	12,130	12,130		12,130	
Templeton Global Inc.Fund	Common	880198106	1,489.9	173,040	173,040		173,040	
Templeton Emerging Markets Fund	Common	880191101	396.6	19,779	19,779		19,779	
Thor Industries, Inc.	Common	885160101	5,360.8	100,465	100,465		100,465	
Tiffany & Co.	Common	886547108	2,181.0	58,099	58,099		58,099	
Time Warner, Inc.	Common	887317105	448.6	26,717	26,717		26,717	
TJX Companies, Inc.	Common	872540109	579.6	23,353	23,353		23,353	
Transocean Inc.	Ord	G90078109	286.7	3,570	3,570		3,570	
TYCO International Ltd.	Common	902124106	600.1	22,325	22,325		22,325	
Valero L.P.	Com Unit LTD PRT	91913W104	712.9	14,076	14,076		14,076	
Ventana Medical Systems	Common	92276H106	384.9	9,215	9,215		9,215	
Verizon Communications	Common	92343V104	1,558.4	45,755	45,755		45,755	
Viacom Inc. - CL B	CL B	925524308	294.8	7,598	7,598		7,598	
Viasys Healthcare Inc.	Common	92553Q209	1,249.9	41,552	41,552		41,552	
Vornado Realty Trust	Sh.Ben.Int	929042109	650.4	6,775	6,775		6,775	
Wal-mart Stores Inc.	Common	931142103	1,524.4	32,269	32,269		32,269	
Walgreen	Common	931422109	996.9	23,115	23,115		23,115	
Wells Fargo Company	Common	949740104	2,686.8	42,067	42,067		42,067	
Wyeth	Common	983024100	796.7	16,421	16,421		16,421	

13F REPORT 1ST Q 2006 GRAND TOTAL 190,897.1

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