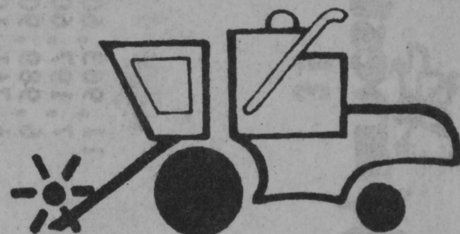
January 1986



LAWN INSTITUTE Harvests

Volume 32 Number 4

THE HARVEST MIX

LAWN AND SPORTS TURF - INDUSTRY CHARACTERISTICS AND STATISTICS

Among the most frequent requests for information received at The Lawn Institute are those concerned with marketing and distribution of turf and lawngrass construction, maintenance and renovation products and services. We are in regular contact with various businesses, with graduate students working on advanced degrees, with marketing and public relations firms and with turf managers and the general public who feel they are a part of an effort to improve quality of life through landscape enhancement. This issue of Harvests presents selected data and commentary from nine trade journals and from state and national turfgrass surveys during the past five years.

LAWN AND SPORTS TURF INDUSTRY

CHARACTERISTICS and STATISTICS

A review of the literature from the early 1980s has developed a new appreciation of the size and complexity of an industry that services the needs of people interested in lawns and sports turf. Data on various aspects of turfgrass related facilities and on the agribusiness impact of lawns and turf are presented under the following headings:

- Agriculture - Land-Use and Development;
- Turfgrass Industry - Size and Scope;
- State Surveys of the Turfgrass Industry;
- Sod Industry;
- Golf Turf;
- Landscape and Grounds Management Surveys;
- National Trade Journal Reader Surveys;
- National Garden Surveys;
- Do-It-Yourself Lawn Care;
- Marketing of Lawn and Garden Products;
- Lawn Care Industry.

Material presented in these eleven categories is referenced so that additional information may be obtained from articles cited or by contacting those responsible for initiation of specific surveys. The following trade journals and gardening magazines are providing essential services in helping us to better describe and appreciate relationships between products and the development and maintenance of high quality lawns and sports turf:

- <u>Garden Supply Retailer</u>; The Miller Publishing Company, P O Box 67, 2501 Wayzata Boulevard, Minneapolis MN 55440. Phone: 612/374-5200. Kay Meichisedech Olson, Editor.
- <u>Grounds Maintenance</u>; Intertec Publishing Corp, 9221 Quivira Road, P O Box 12901, Shawnee Mission KS 66212. Phone 913/888-4664. Kathy Copley, Editor.
- <u>Landscape and Irrigation</u>; Gold Trade Publications Inc, P O Box 156, Encino CA 91426-0156. Phone: 818/343-5961. Bruce Shank, Managing Editor.
- <u>Lawn and Garden Marketing</u>; Intertec Publishing Corp, P O Box 12901, Overland Park KS 66212. Phone: 913/888-4664. Wendall Burns, Editor.
- <u>Lawn Care Industry</u>; Harcourt Brace Jovanovich Publications, 7500 Old Oak Boulevard, Cleveland OH 44130. Phone: 216/243-8100. Steve Neumann, Editor.
- <u>Lawn Servicing</u>; Intertec Publishing Corp, 9221 Quivira Road, P O Box 12901, Overland Park KS 66212-0930. Phone: 913/888-4664. Kathy Copley, Editor.
- <u>National Gardening</u>; The National Gardening Association, 180 Flynn Ave, Burlington VT 05401. Phone: 802/863-1308. Ruth Page, Editor-in-Chief.
- <u>Outdoor Power Equipment</u>; Quinn Publications Inc, 1904 Wenneca, Fort Worth TX 76102. Phone: 817/870-0341. Bill Quinn, Publisher.
- <u>Weeds, Trees and Turf</u>; Harcourt Brace Jovanovich Publications, 7500 Old Oak Boulevard, Cleveland OH 44130. Phone: 216/243-8100. Jerry Roche, Managing Editor.

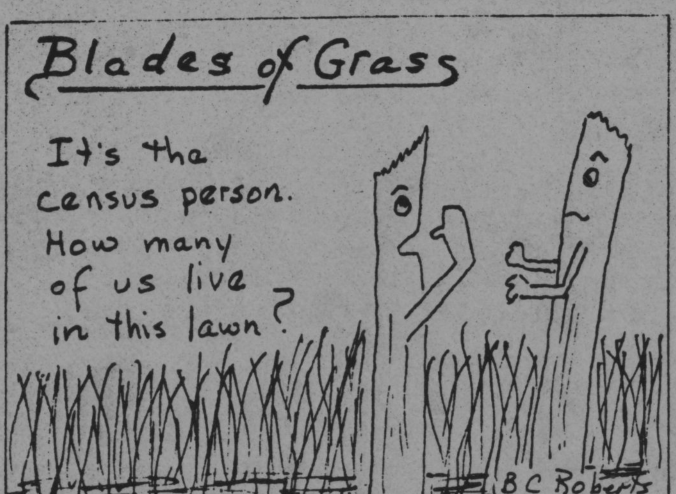
AGRICULTURE — LAND USE AND DEVELOPMENT

From: Landscape and Turf

November - December 1982

FIFTY - FIVE PERCENT OF AMERICAN LAND IS USED FOR AGRICULTURE.

- U S land area totals about 2,264,000,000 acres;
- There are 10 acres for each person in the United States;
- All our urban and rural housing, shopping, manufacturing and transportion needs occupy less than 5 percent of our land;
- Agricultural land amounts to 1,238,000,000 acres or 55 percent of the total;
- Non-agricultural land takes up the remaining 1,026,000,000 acres;
- Cropland occupies 471,000,000 acres;
- Grassland, pasture and range occupy 587,000,000 acres;
- Forestland occupies 703,000,000 acres;
- Rural transportation, parks and recreation, military and service type uses occupy 158,000,000 acres;
- Urban and unclassified land, such as desert, tundra and swamps occupy 345,000,000 acres;
- Privately owned land by individuals, businesses and Indian tribes amounts to 1,370,000,000 acres [60 %];
- Federal government owned land amounts to 742,000,000 acres [33 %];
- State and local government owned land amounts to 155,000,000 acres [7 %].



From: Better Crops

Spring 1985

U S FARMER PRODUCES FOR 78 OTHER CONSUMERS.

- In 1983, there were 3.5 million people working on farms;
- On July 1,1983, the total U S population was estimated at 234.5 million people;
- Thus, farm workers accounted for only 1.5 % of the population.
- In 1983, for every farm worker, there were 5 or 6 nonfarm workers involved in getting farm products to consumers;
- Each farm worker in 1983 supplied food and fiber for 57.6 persons in the United States and 21.5 persons abroad.

From: Landscape and Turf

January - February 1982

THE HOUSING REVOLUTION

- For more than 70 percent of Americans the dream of a free-standing, one family house has all but ended;
- Today, less than 10 % of all Americans can meet traditional income formulas for a median priced home;
- Average home size will drop by at least 25 %;
- The majority of new housing will be at densities of at least 10 units to the acre.

From: Lawn and Garden Marketing

January 1985

RELANDSCAPING: NEW OPPORTUNITY FOR RETAILERS, LANDSCAPERS

- Successful relandscapers are doing most of their residential work for older homeowners [35 and over] who are more likely to have more disposable income and homes worth investing some of that extra money in for relandscaping. They tend to be people in the upper-middle class income range who are staying where they are and have decided to upgrade.

From: Southern Florist and Nurseryman

January 1982

TEN POWERFUL REASONS THE SUNBELT IS "WHERE IT'S AT" FOR HORTICULTURE IN AMERICA

- Solar energy in the sunbelt is a major asset;
- Winter sunlight intensity is an asset;
- Population growth has speeded up in the sunbelt;
- Disposable income has risen rapidly in the sunbelt;
- Direct contacts with sunbelt growers assure delivery on schedule;
- Land values in the sunbelt are more reasonable than elsewhere;
- A new breed of horticulturist is taking up the challenge of making a profit in shopping centers;
- Sunbelt flowers last;
- Sound use of "chain of life" programs does indeed offer the sunbelt this additional marketing benefit;
- The absence of the deadly "not invented here" disease in the new sunbelt horticultural industry may be the greatest advantage of all in favor of the sunbelt.

TURFGRASS INDUSTRY SIZE-SCOPE

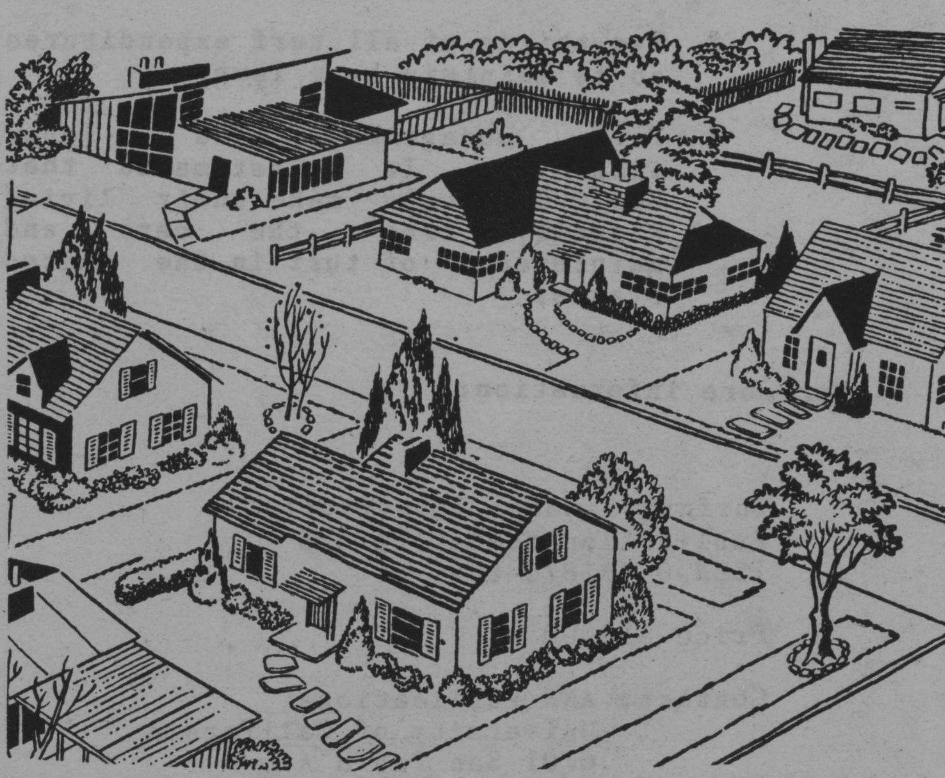
$ $

From: Powergram Earth and Related News

MTD Products Inc Bulletins # 61 and 65.

EARTH AND RELATED NEWS.

- In the United States, lawns occupy an area estimated at between 25,000,000 and 30,000,000 acres;
- The 1980 census counted 80,378,283 homes in the United States - up 26.7 percent from 1970. This represents twice the population growth.



From: Turfgrass Water Conservation

1985

THE SIZE, SCOPE AND IMPORTANCE OF THE TURFGRASS INDUSTRY.

- Urbanization - During the past 100 years the U S population has shifted from an agricultural society to an industrial society - from farm residences to urban, suburban and small town residences;
- Existence time for people [eating, sleeping and caring for one's health] has stayed about the same; subsistence time [making a living] has decreased; leisure or discretionary time has increased;
- Discretionary income has increased over the years;
- Desire for amenities has increased over the years. These involve residential environments, occupational environments, service environments, recreational environments and commuting environments;
- Population increase. The amount of turfgrass acreage apparently coincides with population size. As the U S population continues to increase, so too will the amount of turfgrass acreage;

- Turf in a hypothetical city:

  * Population - 170,000;
  * Turf facility maintenance involves employment of 166 people;
  * Other sectors of economic activities supporting turf facilities involve employment of 110 people;
  * There are 3 bowling greens utilizing 1 acre;
  * There are 3 cemeteries located on 90 acres;
  * There are 195 churches on 17 acres of land;
  * There are 50 city parks covering 628 acres;
  * There are 6 golf courses utilizing 599 acres;
  * There are 2 colleges with 156 acres of grounds;
  * There are 56 schools with 400 acres of grounds;
  * There are 350 factories located on 47 acres;
  * There are 45,200 single family residences located on 3,495 acres;
  * There are 19,600 multiple family residences located on 987 acres;
  * There are 65,465 total facilities on 6,419 acres;
  * Average lawn size is 750 square feet in front and 1000 square feet in back;
  * The homeowner spends on the average $200.00 per year on fertilizer, pesticides, seed and water. This amounts to $9,040,000 a year spent by people living in single family residences;
  * Lawns associated with multiple family dwellings cost about $20.00 per unit to maintain each year. This amounts to $392,000 for maintenance, including water;
  * City parks, cemeteries, schools, churches, colleges and factories are located on 1,338 acres and spend more on water than any other item. Labor, supplies, equipment and water cost $1,100 per acre for a total of $1,471,800;
  * Golf courses and bowling greens cost $2,200 per acre to maintain each year. For 600 acres, this amounts to $1,320,000;
  * $12,223,800 in direct expenditures on turf alone significantly affects the economy of this city. This example may be conservative for some parts of the United States.

- Turf as a national industry:

  * In 1965, turfgrass was considered a $4,300,000,000 per year industry;
  * In 1982, turfgrass was considered a $25,000,000,000 per year industry;
  * California, Florida, Michigan, New York and Pennsylvania all have billion dollar turf industries. Illinois and Texas are very near this level;
  * Two-thirds of all turf expenditures go to maintain home lawns;
  * Turf management is labor intensive. It is estimated that 380,000 people make their living directly from the care and maintenance of turf in the United States.

For more information:

Turfgrass Water Conservation
Publication Number: 12405
ISBN 0-931876-69-9

Price $10.00

Contact: ANR Publications
University of California
6701 San Pablo Ave
Oakland CA 94608-1239

State Surveys of the Turfgrass Industry

From: An Economic Survey of New Jersey Turfgrass.

June 1985

- Total Turfgrass Acreage in New Jersey by Sector, 1983

Sector	Acres/ Unit	Total Acreage
Home lawns	0.30	660,000
Multifamily	0.05	9,850
Golf courses	113.29	25,717
Cemeteries	15.00	16,500
Parklands	14.62	45,203
Schools	10.14	23,200
Churches	1.55	7,770
Institutions	101.69	8,135
Airports	50,71	3,854
Highways	-	19,650
Sod farms	203,70	5,500a
Commercial-industrial	-	40,000
State total	-	865,379

a = harvested and unharvested sod.

- Annual Turfgrass Maintenance Costs in New Jersey by Sector,1983

Sector	Per acre Cost	Total Cost
	dollars	dollars
Home lawns [1]	327	215,898,530
Mutifamily	2,071	20,397,400
Golf courses	1,922	49,416,808
Cemeteries	1,199	19,775,613
Parklands	547	24,710,892
Schools	903	20,943,296
Churches [1]	1,424	11,066,239
Institutions	977	7,943,966
Airports	486	1,874,065
Highways	245	4,805,192
Comm/Industrial	1,750	70,000,000
State total	516	446,832,001

[1] Excludes unpaid labor

- Turfgrass Equipment Inventories in New Jersey by Sectors, 1983

Sector	Total Replacement Value	Total Annual Depreciation
	dollars	dollars
Home lawns	1,129,781,300	112,978,130
Multifamily	20,000,000	1,500,000
Golf courses	114,038,868	6,392,526
Cemeteries	21,339,350	1,387,353
Parklands	22,932,200	1,528,973
Schools	30,208,650	1,875,912
Churches	16,888,200	1,107,507
Institutions	4,027,150	382,727
Airports	2,720,650	191,293
Highways	10,524,000	786,570
Sod farms	18,066,600	1,396,350
Comm/Industrial	40,000,000	4,000,000
State total	1,430,526,968	133,527,341

- Turfgrass Employment in New Jersey by Sectors, 1983.

Sector	Paid Full-time Worker Equivalents	Unpaid Labor in FTW Equivalents
Home lawns [1]	3,075	38,675
Multifamily [1]	640	
Golf courses	1,920	
Cemeteries	1,320	
Parklands	825	
Schools	1,100	
Churches [1]	280	470
Institutions	530	
Airports	135	
Highways	130	
Sod farms	175	
Comm/Industrial [1]	4,000	
State total	14,130	39,145

[1] Includes lawn-service company employees.

- New Jersey Home Lawns: Annual Maintenance Costs, 1983

Cost item	Per acre cost
	dollars
Lawn services	66.39
Other paid labor	31.64
Purchased materials	57.91
Equipment depreciation	171.18
Value of family labor [1]	392.61
Total without family labor	327.12
Total with family labor	719.73

[1] at the minimum wage of $3.35.

- New Jersey Golf Courses: Annual Maintenance Costs, 1983

Item	Per acre cost
	dollars
Fertilizer	69.83
Lime	15.87
Herbicides	28.61
Fungicides & Insecticides	131.69
Multipurpose products	9.07
Seed	24.37
Sod	6.64
Top dressing	43.58
Repairs	148.96
Fuel	71.95
Labor	1,122.42
Depreciation	248.57
Total	1,921.56

- New Jersey Cemeteries: Annual Maintenance Costs, 1983

Item	Per acre cost
	dollars
Fertilizer	5.26
Lime	1.76
Pesticides	11.45
Multipurpose products	3.00
Seed	9.78
Sod	3.99
Repairs	40.57
Fuel	38.84
Labor	999.79
Depreciation	84.08
Total	1,198.52

- New Jersey County and Municipal Parks: Annual Maintenance Costs, 1983

Item	Per Acre Cost
	dollars
Fertilizer	28.72
Lime	8.00
Chemicals	21.99
Multipurpose products	5.14
Seed	10.60
Sod	.51
Repairs	60.51
Fuel	50.17
Labor	339.72
Depreciation	33.74
Total	559.10

- New Jersey State Parks and Historical Sites: Annual Maintenance Costs, 1983

Item	Per Acre Cost
	dollars
Fertilizer	4.22
Lime	1.20
Pesticides	3.68
Seed	2.36
Sod	.21
Repairs	52.50
Fuel	18.83
Labor	211.65
Depreciation	35.38
Total	330.03

- New Jersey Public Schools: Annual Maintenance Costs, 1983

Item	Per Acre Cost
	dollars
Fertilizer	74.00
Lime	10.00
Top soil	13.61
Herbicides	16.06
Fungicides & insecticides	17.15
Multipurpose products	6.11
Seed	16.81
Fuel	37.52
Repairs	50.74
Labor	579.87
Depreciation	80.86
Total	902.73

- New Jersey Houses of Worship: Annual Maintenance Costs,1983.

Item	Per acre cost
	dollars
Fertilizer	149.08
Lime	7.42
Pesticides	6.42
Multipurpose products	3.13
Seed	30.65
Sod	55.41
Repairs	147.77
Fuel	100.70
Paid labor	240.25
Unpaid labor	464.00
Depreciation	142.54
Lawn services	540.86
Total without unpaid labor	1,424.23
Total with unpaid labor	1.888.23

- New Jersey Institutions*: Annual Maintenance Costs, 1983.

Item	Per acre cost
	dollars
Fertilizer	19.43
Lime	3.89
Pesticides	16.19
Multipurpose products	1.54
Seed	10.40
Sod	0.73
Repairs	33.77
Fuel	29.68
Labor	813.84
Depreciation	47.05
Total	976.52

* County colleges, university campuses, state colleges, private colleges, correctional, health, preparatory schools.

- New Jersey Airports: Annual Maintenance Costs, 1983

Item	Per acre cost
	dollars
Fertilizer	8.10
Lime	4.35
Pesticides	1.72
Multipurpose products	.37
Seed	1.89
Repairs	16.26
Fuel	19.41
Labor	384.53
Depreciation	49.63
Total	486.26

- New Jersey Highways: Annual Maintenance Costs, 1983

Item	Per acre cost
	dollars
Fertilizer	4.39
Lime	3.55
Herbicides	14.01
Fungicides & insecticides	2.17
Multipurpose	11.21
Seed	2.51
Repairs	12.76
Fuel	47.09
Labor	106.82
Depreciation	40.03
Total	244.54

- New Jersey Sod Farms: Annual Production Costs, 1983

Item	Per acre cost of sod sold
	dollars
Fertilizer	192.05
Lime	24.63
Herbicides	67.27
Fungicides & insecticides	73.95
Seed	110.91
Repairs	396.45
Fuel	344.04
Labor	1,011.48
Depreciation	734.92
Total [1]	2,955.70

[1] Water and pumping costs were not assessed.

For more information

on An Economic Survey of New Jersey Turfgrass,

Contact:

Professor Henry W Indyk
Extension Specialist
Turfgrass Management
Rutgers University
Soils & Crops Department
P O Box 231
New Brunswick NJ 08903

$ From: Weeds Trees and Turf

August 1985

TURFGRASS TOPS BILLION DOLLAR MARK IN VIRGINIA

- Home lawns in Virginia amount to almost 500,000 acres;
- There are 1,100,000 home lawns, a 27 percent gain since 1972;
- There are 826,000 total acres of turfgrass in the state;
- Turfgrass ranks as the third largest crop acreage in Virginia;
- The dollar amount of the turfgrass industry doubled in the last decade;
- There are 246 golf courses in Virginia;
- The cost of golf course turf, establishing new areas and purchasing equipment exceeds $32,000,000 annually. This is more than triple the total in 1972. Paid labor costs are believed to be responsible for much of that increase.

From: The Rhode Island Nurserymen's Newsletter

Summer 1985

VALUE OF TURF TO THE ECONOMY OF RHODE ISLAND

- Assumptions made:

  * Expenditures for turf maintenance are directly related to population;

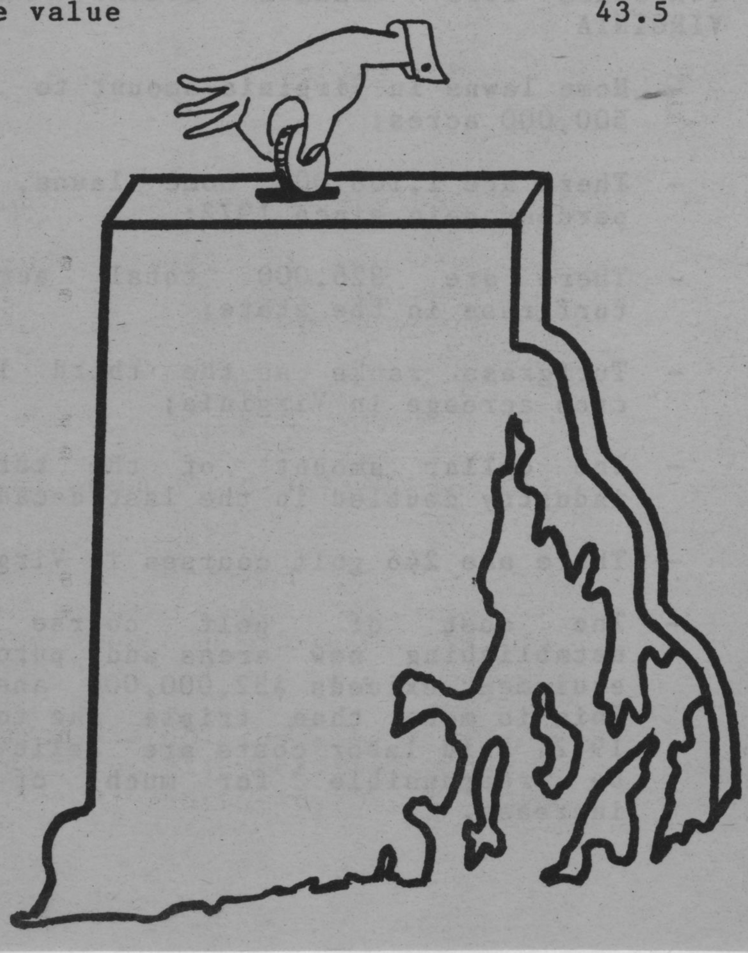
  * Increases in cost of turf maintenance follow the Consumer Price Index;

  * The mix of expenditures in several categories is similar in Rhode Island to that in other states;

  * A fourth multiplier is used to recognize the different climatic regions from which data were taken.

- Approximate expenditures for turf maintenance in Rhode Island in 1982 - based upon Rhode Island population of 930,000.

Survey Year	St	Popul. Mill.	Turf Exp. Mill.	CPI Mult	Seas Mult	Appr '82 RI Turf Exp, Mill.
1966	PA	11.5	164.8	2.9	1.0	38.6
1967	WV	1.8	31.8	2.8	1.0	46.0
1976	FL	9.7	538.9	2.2	0.5	56.8
1978	OK	3.0	69.5	1.9	0.8	32.8
Average value						43.5



- Estimated annual expenditures for turf maintenance by category in Rhode Island in 1982.

Category	*1970 Estimate $ Expenditures	**1982 Estimate $ Expenditures
Airports	40,000	108,000
Athletics	60,000	162,000
Cemeteries	500,000	1,350,000
Golf Courses	2,800,000	7,560,000
Home lawns	12,000,000	32,400,000
Indust lawns	200,000	540,000
Parks	125,000	337,500
Public Prop	25,000	67,500
Roadsides	150,000	405,000
Schools	80,000	216,000
Total	15,980,000	43,146,000

* 1970 estimate by C R Skogley
** Calculated using 2.7 CPI inflator 1970-1982.

- Rhode Island has experienced rapid growth in commercial sod production since 1970. A harvest of 1,000 acres of sod per year would add about $4,800,000 to the $43,146,000 for a total of $47,946,000.

- 1980 data from the Rhode Island Department of Economic Development lists the value of crops and livestock sold at $32,400,000 and the value of fish landings at $46,100,000. An economic impact of turf at $47,946,000 places this commodity first.

For more information

on the Turfgrass Industry in Rhode Island,

contact:

Professor D Thomas Duff
Department of Plant Science
University of Rhode Island
Kingston RI 02881.

SOD INDUSTRY

From: Florida Turf Digest

December 1985

SOD PRODUCTION SUMMARY

- Florida sod production in 1974 totaled 44,150 acres:

  * 30,633 cultivated

  * 13,517 pasture.

- Palm Beach County reported over 17,000 acres of sod in production in 1982. This was primarily on muck soil around Lake Okeechobee and had a market value in excess of $25,000,000.

- Labor for sod production - five full time and two part-time employees for a 250 acre farm;

- Capital costs for St Augustinegrass sod production is approximately $1250 per acre exclusive of land investment;

- Production costs for St Augustinegrass sod production is about $550 per acre;

- Net profit for St Augustinegrass sod production per acre [return to risk] including interest and principal payments on capital expenditures was approximately $275 per acre, assuming 100 % financing of capital outlay.

From: Weeds Trees and Turf

July 1983

SOD INDUSTRY FIGHTS BACK WITH CUSTOMER EDUCATION AND HIGH QUALITY TURFGRASS

- Average seed expenditures for sod dropped from $6,318 in 1980 to $5,577 in 1981 to $4,394 in 1982. About 50 percent of sod growers thought seed purchases would increase in 1983;

- About 50 percent of sod growers thought prices would stay about the same;

- About 50 percent of sod growers were interested in trying more expensive improved seed varieties;

- On the average, sod managers work with 276.5 acres of sod;

- Sod production is the primary business of over 80 percent of the sod growers;

- In 1981 and 1982 about half of the sod growers reduced their acreage;

- Importance of Buyers in the Sod Market:

	Impor.	Moder. Impor.	Not Impor.
Landscape Contractors	46	5	1
Homeowners	30	16	7
Cemeteries	6	17	20
Golf Courses	5	28	20
Garden Centers	13	20	14
Schools/Parks	15	19	11

- Average Number of Employees:

Year	Full-Time	Part-time
1980	7.28	8.0
1981	7.54	8.0
1982	8.0	7.0
1983	6.08	6.0

- Expenditures for fertilizers, herbicides, fungicides, insecticides amounted to $2,160 on the average in 1982;

- Average of insecticide expenditures alone amounted to $2,240.

From: Grounds Maintenance

July 1983

SOD SALES FORECASTING - SORT OF

- For 200,000 housing starts [single family dwellings] there are about $27,000,000 worth of sod sold in the north;

- For 300,000 housing starts [single family dwellings] there are about $45,000,000 worth of sod sold in the north;

- For 400,000 housing starts [single family dwellings] there are about $65,000,000 worth of sod sold in the north;

- In the south, for 200,000 housing starts [single family dwellings] there are only about $7,000,000 worth of sod sold.

Golf Turf

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From: Florida Turf Digest

February 1985

VALUE OF GOLF TURF TO FLORIDA

- Florida leads the nation in the number of new golf courses constructed;

- Since 1980 from 25 to 30 new courses have opened annually;

- Since 1980 from 10 to 15 new courses have opened each year in California;

- In January 1983 there were 751 golf courses in Florida -

  - 18 hole regulation courses - 488;
  - 9 hole regulation courses - 91;
  - 18 hole executive courses - 82;
  - 9 hole executive courses - 29;
  - 18 hole par 3 courses - 10;
  - 9 hold par 3 courses - 41.

- A survey of 18 hole regulation and executive courses in 1983 -

  * Regulation:

    - 145 acres per course;
    - $306,000 annual maintenance cost;
    - 10 employees per course;
    - 45,000 rounds of golf annually.

  * Executive:

    - 54 acres per course;
    - $156,000 annual maintenance cost;
    - 5 employees per course;
    - 45,000 rounds of golf annually.

- Estimated totals for all golf courses in Florida based on 1983 data:

  - Total acreage = 83,667;
  - Total maintenance cost annually = $176,927,000;
  - Total number of employees = 5934;
  - Total rounds of golf annually = 33,795,000.

- The 751 courses in Florida are included in 642 different facilities with operations budgets of approximately $156,000,000. Thus, the total cost each year of maintaining and operating golf facilities in Florida is $332,927,000. There are some 10,000 total employees;

- Golf course land on the average is assessed at $3,000 per acre. This yields a total of $251,001,000 for tax purposes;

- Seventy four out of 751 golf courses are publicly owned and not subject to property taxes;

- The median expenditure for golfers in the southeastern United States is $1280 annually;

- In 1983 there were 10,400,000 residents in Florida. Seventeen and three tenths percent play golf. This accounts for 1,800,000 golfers who spend some $2,300,000,000 a year;

- In 1982 there were 39,300,000 tourists in Florida. Eleven and three tenths percent played golf while there. Six and two tenths to 8.7 percent came to Florida just to play golf. All tourists combined spent $21,500,000,000. It is estimated that $1,300,000,000 was spent on golfing vacations;

- Florida has two developmental fronts - the golf front and the water front;

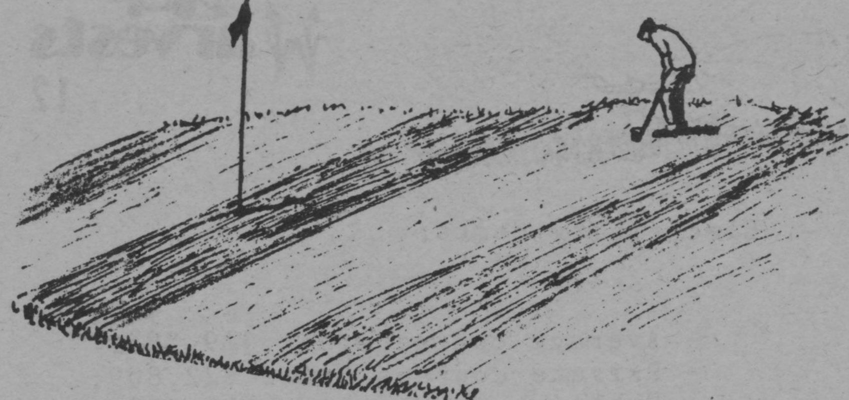
- In the southeastern United States over 60 % of the golfers are either retired, students or homemakers. The less than 40 % that are employed have a median income of $33,000.

For more information

Contact:

Florida Turf-Grass Association
302 South Graham Ave
Orlando FL 32803

305/898-6721



From: Weeds Trees and Turf

January 1985

THE GOLF BATTLEGROUND

- A 1983 Statistical Profile of Golf in the United States reported by the National Golf Foundation included the following:
    * Estimated 14,000,000 golfers in the US;
    * Golfers spend $43,000,000 in greens fees;
    * Golfers spend $16,000,000 in rental of golfing equipment and carts;
    * Overall 18-hole courses have average crews of 9 people;
    * Overall 9-hole courses have average crews of 3.5 people;
    * Overall southern courses average 10 crew members;
    * Overall transition zone courses average 7.5 crew members;
    * Overall northern courses average 8 crew members.
- Budgets by Type of Course [average of 183 responses]

BUDGETS BY TYPE OF COURSE ETC

Type of Course	Maint-enance Budget	Herbi-cide Budget	Insec-ticide Budget	Fungi-cide Budget	Ferti-lizer Budget	Winter Over-seed	Renova-tion Budget
	$	$	$	$	$	$	$
9-hole	54,209	1,198	1,323	3,648	4,368	117	547
18-hole	221,245	5,568	4,164	8,413	11,039	4,298	2,083
Daily fee	131,038	2,586	2,073	5,399	8,560	1,711	748
Private	234,905	5,909	4,645	10,059	11,700	4,943	2,435
Public	194,089	5,678	3,337	4,859	10,050	2,363	1,323
Resort	341,429	7,101	7,286	7,271	26,286	11,833	1,833
All course	208,798	5,160	3,957	7,855	11,178	4,201	1,829

From: National Golf Foundation Survey

Fall 1984

- U S golf courses spend $1,700,000,000 a year to maintain their facilities;
- $137,000,000 is spent each year for new maintenance equipment;
- $103,000,000 is spent on projects to improve existing facilities;
- $1,500,000,000 represents yearly maintenance operating costs;
- Personnel costs represent the largest single expense category for maintaining the nation's golf courses - 60 to 70 %;
- The nation's golf courses currently have a maintenance equipment inventory valued at over $1,800,000,000.

For more information

On The Golf Course Maintenance Report - a copy can be obtained at a cost of $40.00.

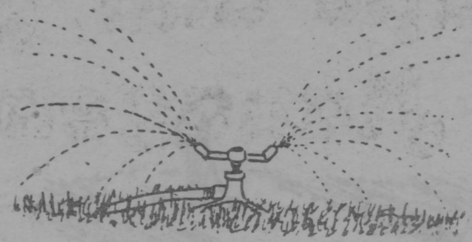
Contact:

National Golf Foundation
220 Castlewood Drive
North Palm Beach
Florida 33408

305/844-2500

From: Landscape and Irrigation

February 1984



GOLF COURSE SURVEY

- Golf course superintendents in Arizona, northern and southern California, Colorado, Oregon, Texas and Washington were surveyed.

- For 18 hole golf courses [averages]:

  - 158 acres;
  - 120 acres irrigated and mowed;
  - Public courses averaged 161 acres;
  - Private courses averaged 155 acres;
  - Maintenance budgets averaged $336,990;
  - Many budgets reached within the $700,000 to $800,000 range;
  - Some courses are maintained for less than $200,000 per year;
  - Private clubs averaged $365,780 for maintenance budgets;
  - Public courses averaged $308,200 for maintenance budgets;
  - Budgets in southern California averaged $428,617;
  - Budgets in Arizona averaged $415,000;
  - Colorado clubs spent about $397,000;
  - Northern California clubs averaged $343,636;
  - Texas - $259,000;
  - Washington - $162,500;
  - Oregon - $128,000
  These were lowest in the budget category.

- Annual capital expense budgets:

  - Average golf course spent about $50,971;
  - Private clubs - $52,809;
  - Public courses - $49,133;
  - Southern California averaged $57,733;
  - Texas - $51,538;
  - Colorado - $50,000;
  - Arizona - $42,500;
  - Northern California - $35,000;
  - Washington - $21,600.

- Annual irrigation expenses:

  - Average [non-well] course spent $42,604 for water while 20 % of the courses had wells and paid no water bills;
  - Public facilities paid $47,125 for water with 33 % using wells;
  - Private courses paid $38,083 for water with 20 % using wells;
  - Southern California had an average water bill of $49,888. Several costs were as high as $100,000 and the highest was $125,000;
  - Texas averaged $14,500 for water but 55 % of the courses had their own wells.
  - Oregon averaged $3,000 for water with Washington averaging $1,000;
  - Northern California paid $38,666 on the average;
  - Colorado averaged $38,400.

- Electricity costs;

  - Average course spent $19,583;
  - Private courses spent $22,809;
  - Public courses spent $16,357;
  - Arizona averaged $67,666;
  - Texas averaged $28,000;
  - Southern California averaged $18,538;
  - Northern California averaged $10,222;
  - Colorado averaged $13,400;
  - Washington averaged $7,000;
  - Oregon averaged $5,000.

- Irrigation system repair and maintenance costs:

  - Average course spent $8,590;
  - Private courses spent $8,900;
  - Public courses spent $8,281.

- Equipment maintenance costs:

  - Average course spent $20,153; [extreme cost $73,000];
  - Private courses spent $23,307;
  - Public courses spent $17,000.

- Fertilizer and chemical costs:

  - Average course spent $25,746;
  - Private courses spent $27,461;
  - Public courses spent $24,032 [extreme cost $80,000];

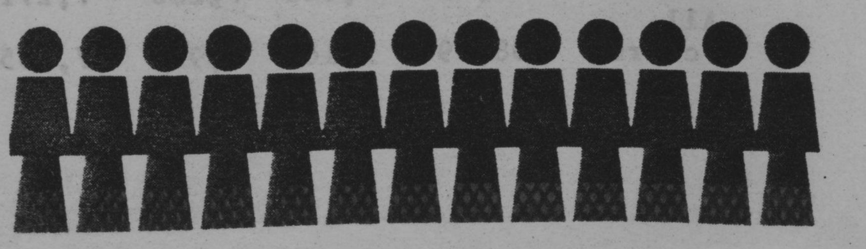
- Type of irrigation system:

  61 % electric;
  23 % hydraulic;
  7 % combination electric and hydraulic;
  9 % manual

  - Southern California used 73 % hydraulic;
  - Texas used 57 % hydraulic;
  - Northern California used 95% electric.

- Labor:

  - Average course employed 13 workers at a cost of $170,487. This made the mean salary $13,588.
  - Private courses paid 14 employees $14,046 for a total of $185,033.
  - Public courses paid 12 employees $13,131 for a total of $155,937.



Landscape and Grounds Management Surveys

From: Grounds Maintenance

October 1985

1985 GROUNDS MAINTENANCE SURVEY

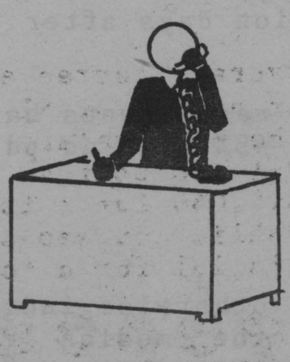
- Median Salaries of 283 Parks Respondents

Region	Responses	Median Salary
Northeast	93	$25,300
Southeast	54	$25,700
Plains	33	$26,650
Mountains	14	$31,250
Southwest	27	$27,900
West coast	51	$29,850

- Golf Courses *

	1984	1985
Employees supervised	11	10
Number of acres	157	160
Years in current job	6	6
Years in the industry	14	14
Salary	$25,500	$25,550
Received salary incr in last year ?	84% yes	83% yes
If received incr in last year,what % ?	9%	8%
Eligible for raises on spec schedule?	68%	63%
If yes, what schedule? A=annual,S=semiannual	94%A 6%S	92%A 1%S
Do you receive a cost of living raise ?	NA	28% yes
If yes, annually?	NA	76% yes
Days of pd sick leave per year	10	11#
pd holidays per year	7	8
pd vacation days after 5 years	NA	16

#-20% of respondents have unlimited sick leave; 23% have no pd sick leave.



- Government Grounds/Parks *

	1984	1985
Employees supervised	9	12
Number of acres	237	398
Years in current job	6	8
Years in the industry	13	14
Salary	$27,600	$27,800
Received salary incr in last year ?	87% yes	87% yes
If received incr in last year,what % ?	7%	7%
Eligible for raises on spec schedule?	70% yes	68% yes
If yes, what schedule? A=annual,S=semiannual	80%A 20%S	86%A 6%S
Do you receive a cost of living raise ?	NA	57% yes
If yes, annually?	NA	78% yes
Days of pd sick leave per year	15	13#
pd holidays per year	11	12
pd vacation days after 5 years	NA	17

#-4% of respondents have unlimited sick leave; 3% have no pd sick leave.

- Office and Industrial Complexes *

	1984	1985
Employees supervised	7	7
Number of acres	67	49
Years in current job	5	5
Years in the industry	10	10
Salary	$26,700	$24,000
Received salary incr in last year ?	90% yes	90% yes
If received incr in last year,what % ?	7%	7%
Eligible for raises on spec schedule?	87% yes	84% yes
If yes, what schedule? A=annual,S=semiannual	96%A 4%S	90%A 4%S
Do you receive a cost of living raise ?	NA	27% yes
If yes, annually?	NA	41% yes
Days of pd sick leave per year	15	12#
pd holidays per year	9	10
pd vacation days after 5 years	NA	16

#-26% of respondents have unlimited sick leave; 11% have no pd sick leave.

- * Unless otherwise indicated, numbers represent the median rounded to the nearest whole number. Median means the middle number: one half the responses were above and one half were below.

- Educational Institutions *

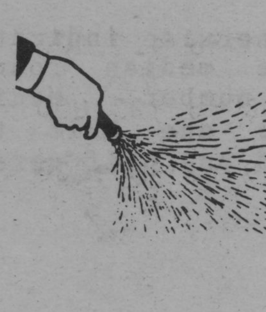
	1984	1985
Employees supervised	9	11
Number of acres	128	161
Years in current job	7	7
Years in the industry	13	13
Salary	$22,450	$24,050
Received salary incr in last year ?	86% yes	93% yes
If received incr in last year, what % ?	7%	7%
Eligible for raises on spec schedule?	74% yes	71% yes
If yes, what schedule?	95%A	94%A
A=annual, S=semiannual.	5%S	2%S
Do you receive a cost of living raise ?	NA	40% yes
If yes, annually?	NA	63% yes
Days of pd sick leave per year	15	13#
pd holidays per year	10	12
pd vacation days after 5 years	NA	18

#-7% of respondents have unlimited sick leave; 2% have no pd sick leave.

- Hospitals *

	1984	1985
Employees supervised	9	5
Number of acres	128	54
Years in current job	7	6
Years in the industry	13	13
Salary	$22,450	$22,650
Received salary incr in last year ?	86% yes	78% yes
If received incr in last year, what % ?	7%	6%
Eligible for raises on spec schedule?	74% yes	80% yes
If yes, what schedule?	95%A	83%A
A=annual, S=semiannual	5%S	3%S
Do you receive a cost of living raise ?	NA	64% yes
If yes, annually?	NA	88% yes
Days of pd sick leave per year	15	13#
pd holidays per year	10	8
pd vacation days after 5 years	NA	19

#-2% of respondents have unlimited sick leave; 2% have no pd sick leave.



- Cemeteries *

	1984	1985
Employees supervised	8	9
Number of acres	90	95
Years in current job	9	8
Years in the industry	14	14
Salary	$23,400	$22,900
Received salary incr in last year ?	93% yes	85% yes
If received incr in last year, what % ?	7%	8%
Eligible for raises on spec schedule?	63% yes	82% yes
If yes, what schedule?	94%A	86%A
A=annual, S=semiannual	6%S	14%S
Do you receive a cost of living raise ?	NA	21% yes
If yes, annually?	NA	57% yes
Days of pd sick leave per year	13	11#
pd holidays per year	8	7
pd vacation days after 5 years	NA	14

#-9% of respondents have unlimited sick leave; 15% have no pd sick leave.

- Landscape Contractors and Lawn Services *

	1984	1985
Employees supervised	5	7
Number of customers	91	98
Years in current job	6	6
Years in the industry	9	10
Salary	$22,700	$23,150
Received salary incr in last year ?	62% yes	71% yes
If received incr in last year, what % ?	12%	12%
Eligible for raises on spec schedule?	34% yes	40% yes
If yes, what schedule?	91%A	83%A
A=annual, S=semiannual	9%S	8%S
Do you receive a cost of living raise ?	NA	13% yes
If yes, annually?	NA	69% yes
Days of pd sick leave per year	40 or more	7#
pd holidays per year	8	8
pd vacation days after 5 years	NA	14

#-16% of respondents have unlimited sick leave; 43% have no pd sick leave.

- * Unless otherwise indicated, numbers represent the median rounded to the nearest whole number. Median means the middle number: one half the responses were above and one half were below.

- Utilities and Transportation *

	1984	1985
Employees supervised	10	9
Number of acres	526	585
Years in current job	10	15
Years in the industry	13	19
Salary	$30,000	$31,650
Received salary incr in last year ?	85% yes	92% yes
If received incr in last year, what % ?	6%	7%
Eligible for raises on spec schedule?	65% yes	62% yes
If yes, what schedule?	91%A	88%A
A=annual, S=semiannual	8%S	13%S
Do you receive a cost of living raise ?	NA	31% yes
If yes, annually?	NA	63% yes
Days of pd sick leave per year	17	14#
pd holidays per year	12	12
pd vacation days after 5 years	NA	15

#-23% of respondents have unlimited sick leave; 100% have pd sick leave.

- * Unless otherwise indicated, numbers represent the median rounded to the nearest whole number. Median means the middle number: one half the responses were above and one half were below.

From: Weeds Trees and Turf

April 1985

THE GOVERNMENT DILEMMA: AGRONOMICS VS BUDGETS

- A survey of government landscape managers revealed the following:

  * The average manager has 11 years experience in the industry;

  * These managers supervise an average landscape crew of 11 [high of 50, low of 1];

  * These managers on the average are responsible for 889 acres [high of 10,000, low of 3]. An average of 34 acres is devoted to athletic fields;

  * Importance of duties performed:

	very imp	imp	not imp
Roadside maintenance	23%	43%	44%
Athletic fields	64%	14%	22%
Buildings[outdoor maintenance]	40%	30%	30%
Buildings[indoor maintenance]	54%	23%	23%
Park maintenance	48%	23%	29%
School Maintenance	34%	.08%	65.29%
Turf management	51%	39%	10%
Tree management	51%	43%	6%
Street maintenance	21%	34%	45%
Snow removal	39%	.13%	60.87%
Golf Course[s]	.8%	8%	84%
Military Installation	0	41%	59%
Airport	3%	9%	88%
Cemetery	19%	11%	70%

* Budgets in 1985 ranged from a high of $8,000,000 to a low of $1,500;

* About 25 percent of budgets go to roadside vegetation management;

* Funds come from city budgets, user fees, state agencies, special taxes, cemetery lot sales, internments and gasoline taxes;

* Projections for total expenditures for 1985 were:

Dry applied turf fertilizer	$34,200,000
Liquid applied turf fertilizer	$5,340,000
Pre-emergence herbicides	$7,210,000
Post-emergence herbicides	$9,840,000
Turf insecticides	$3,710,000
Wetting agents	$616,000
Fungicides	$3,970,000
Growth regulators	$1,500,000

$

From: Weeds Trees and Turf

December 1984

YEARNING FOR RECOGNITION

- A major difficulty in servicing the athletic field market has been that there is no such thing as a typical athletic field manager;

- The average budget for chemicals and equipment for athletic fields is $16,000;

- On the average, track surfaces and pits are worth $117,400 and fencing around fields is worth $52,000. Equipment is worth $163,000 and stadium building and stands are valued at $1,570,000;

- Salaries range from $12,000 to $40,000 annually:

  * $12,000 to $19,000 range - 14 %

  * $20,000 to $25,000 range - 48%

  * $25,000 to $30,000 range - 26 %.

From: Associated Landscape Contractors of America

October 1984

LANDSCAPE MANAGEMENT SURVEY RESULTS

- Regions cited are as follows:

  1. CA, OR, WA, AK, HI
  2. UT, CO, MT, ID, MN, WY, ND, SD, NV, IA, NE, KS, MO
  3. TX, OK, AZ, NM
  4. WI, IL, IN, MI
  5. OH, PA, VA, WV, MD, DE, KY
  6. NY, NJ, CT, MA, VT, NH, ME, RI
  7. NC, SC, GA, FL, AL, MS, LA, TN, AR

- Wage Survey:

  - The following job descriptions are intended to depict only a general format of the responsiblities of the individual. Your company may not have the same title and, further, may not have such a position in your organization.

Production Manager

- Oversees and directs all field operations. Responsible for cost control, quality control, preparing bids, submitting related budget data and liason between client and company. Develops foremen and supervisors. Enforces company policies.

Region		1	2	3	4	5	6	7
	Low	26,000	17,680	24,000	18,720	18,720	22,000	15,600
$	Aver	31,024	22,686	31,700	26,752	23,744	32,000	24,463
	High	38,000	32,000	48,000	40,000	26,000	45,000	37,000

Production Supervisor

- Schedules work, equipment, etc, for all crews. Hire/fire work force. Prepares fertilizer/chemical application and procedures. Review time sheets and approves. Performs field training for crew members.

Region		1	2	3	4	5	6	7
	Low	20,000	15,000	17,000	18,000	13,520	17,680	11,400
$	Aver	23,889	16,977	19,780	19,991	19,304	19,850	17,806
	High	32,000	20,000	24,000	30,000	23,000	23,000	25,000

Route/Site Foreman

- Directs all activities and personnel at the job site. Solve on-site problems. Responsible for proper equipment and tool maintenance, budgeted hours, safety and site quality.

Region		1	2	3	4	5	6	7
	Low	12,480	10,400	11,440	12,500	10,400	14,560	10,400
$	Aver	15,817	13,291	15,657	15,740	14,780	16,997	13,435
	High	18,000	17,680	22,500	20,000	18,000	19,500	18,000

Equipment Operator

- Operates riding landscape equipment ;and performs minor routine service and repair of equipment. Performs horticultural tasks assigned, depending on season.

	Region	1	2	3	4	5	6	7
	Low	12,480	9,360	10,400	10,000	9,360	11,440	9,500
$	Aver	13,885	11,232	20,980	13,120	12,123	12,300	11,754
	High	15,600	12,480	45,000	20,000	18,000	13,500	16,640

Crew Member

- Works with route/site foreman in performing various duties such as mowing, edging, raking, weeding, fertilization, watering, etc.

	Region	1	2	3	4	5	6	7
	Low	8,320	9,360	7,282	9,360	6,500	11,440	8,000
$	Aver	10,967	9,331	9,490	10,917	9,605	10,691	9,450
	High	12,000	11,440	11,440	15,000	12,000	9,776	11,440

Shop Foreman

- Oversees and directs shop operation with minimum of one mechanic subordinate. Competitively procures mowing and small engine parts and supplies. Maintains inventories.

	Region	1	2	3	4	5	6	7
	Low	16,640	N/A	17,000	14,000	17,680	13,500	10,400
$	Aver	25,343	18,720	22,000	19,423	24,920	13,770	14,263
	High	32,000	N/A	25,000	28,000	30,000	14,040	22,000

Mechanic

- Schedules and carries out routine maintenance and repair of mowing equipment and/or trucks etc. Makes field service calls.

	Region	1	2	3	4	5	6	7
	Low	12,480	9,360	14,400	10,500	11,500	10,400	11,440
$	Aver	16,057	13,867	15,625	15,688	16,532	15,910	14,128
	High	18,750	18,720	18,000	24,000	26,000	21,000	18,720

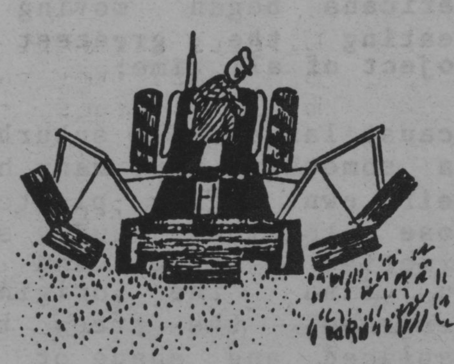
For more information:

Concerning Landscape Management Survey Results

Contact:

Associated Landscape Contractors
of America
405 N Washington Street
Falls Church VA 22046

703/241-4004

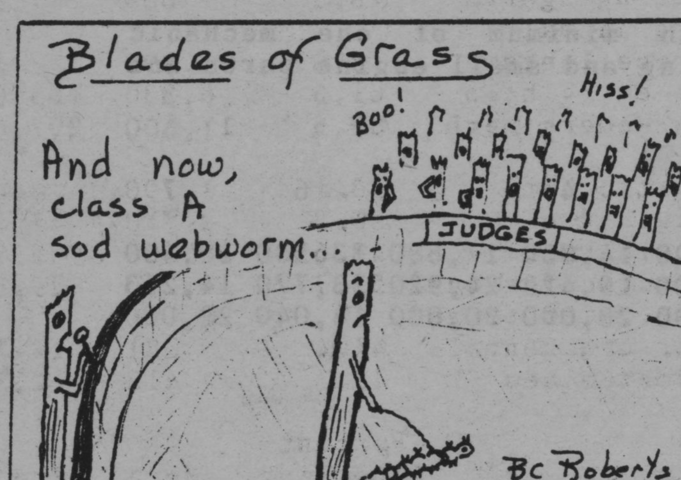


From Weeds Trees and Turf

December 1985

CHEMICALS REPLACING PEOPLE

- Grounds maintenance chores in parks are being handled by fewer workers now than in the past;
- In Wisconsin, 763 county employees are doing today what 872 did in 1981. This is a 12.5 percent cut in four years;
- Since 1980, chemical purchases [mostly pesticides] have increased 61 percent, from $87,000 to $143,000 in 1985;
- 1986 chemical budget is listed at $155,000.



From: Weeds Trees and Turf

October 1984

THE RELANDSCAPING OF AMERICA

- In the 1950s and 1960s, millions of Americans began moving to suburbia, creating the greatest landscaping project of all time;
- Because large-scale suburban landscaping was something new, many homeowners did their own. They planted shrubs too close together and selected poor varieties of trees and grass. Today, you find the original shrubbery overgrown, the trees too large or misplaced and the shade or thatch taking their toll on lawns;

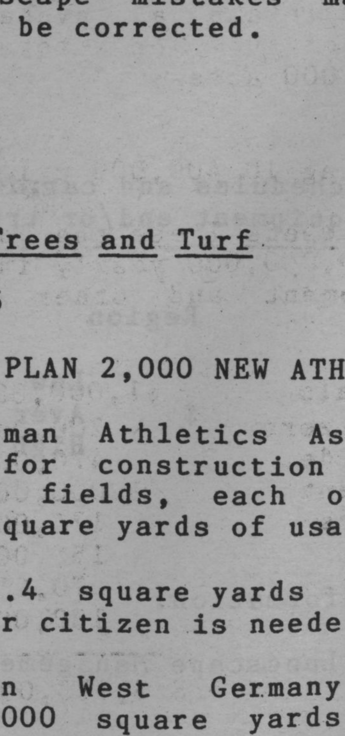
- Survey of lawn and garden do-it-yourselfers:
  * Half live in homes that are 25 years old or older;
  * 75% have homes older than 8 years;
  * Most do-it-yourselfers are more than 35 years old;
  * 21 % of the original owners moved up to bigger houses on larger lots in the 1960s and early 1970s;
  * 17% of the original owners moved up to bigger houses on larger lots in the 1980s;
  * Home buyers concentrate more on the inside for the first 5 years;
  * Lawn and gardening projects become more important the longer people stay put;
  * U S population is getting older;
  * Homeowners are keeping their homes longer;
  * Landscape mistakes made earlier must be corrected.

From: Weeds Trees and Turf

December 1985

WEST GERMANS PLAN 2,000 NEW ATHLETIC FIELDS

- The German Athletics Association has called for construction of 2,000 new athletic fields, each offering about 33,600 square yards of usable space;
- About 5.4 square yards of recreation space per citizen is needed;
- Today in West Germany, there are 290,400,000 square yards of athletic surface.



National Trade Journal Reader Surveys

From: National Survey of Weeds Trees and Turf Readers.

September 1984

SUMMARY OF FINDINGS

- A representative sample of 500 landscape-ground care professionals from Weeds Trees and Turf domestic circulation were surveyed in August and September 1984.

- According to circulation qualification information:

  * 24 % of the businesses are golf courses;

  * 22 % are landscape contractors;

  * 26 % are schools-parks-government facilities;

  * 41 % are executives in their firms;

  * 47 % are landscape-grounds managers;

  * 86 % maintain an average of 244 acres of turf for a total of almost 9,000,000 acres;

  * 31 % maintain rights of way - totaling 10,400,000 miles.

- Readers of Weeds Trees and Turf purchase over $3,000,000,000 yearly in chemicals, seed, equipment and other supplies as follows:

Chemicals	$1,000,000,000
Fertilizers	200,000,000
Herbicides	470,000,000
Equipment	1,000,000,000
Tractors	170,000,000
Mowers	155,000,000
Seed	70,000,000
Sod	180,000,000
	$ 3,173,000,000

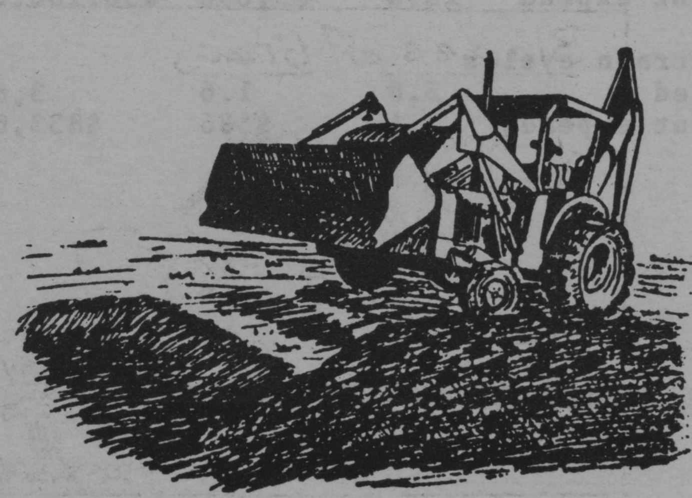
- Current Yearly Expenditures for the Items Listed Below:

Category	Percent Reporting	Mean	Projection
	%	$	$
Turf seed	73.4	2,270	70,500,000
Sod	40.4	6,330	180,000,000
Dry-applied turf fertilizer	74.9	5,270	167,000,000
Liquid-applied turf fert	23.4	2,860	28,400,000
Tree fertilizer	36.7	543	8,440,000
Soil amendments	29.9	2,360	29,900,000
Wetting agents	28.2	639	7,640,000
Bird/animal repellents	8.8	1,990	7,390,000
Pre-emerg herb	61.6	6,330	165,000,000
Post-emerg herb	60.5	11,600	297,000,000
Aquatic herb	18.1	1,100	8,460,000
Fungicides	50.3	2,710	57,700,000
Growth regul	18.6	680	5,370,000
Insectic for turf	53.7	1,290	29,300,000
Insect for trees or ornamentals	44.4	781	14,700,000
Rodenticides	13.3	418	2,350,000

Category	Percent Reporting	Mean	Projection
	%		
Golf cars-gas			
# owned	14.0	32.1	190,000
current expend	7.0	$4,930	$14,600,000
Golf cars-electric			
# owned	12.6	36.0	192,000
current expend	7.0	$10,100	$30,100,000
Utility vehicles			
# owned	32.5	3.4	46,700
current expend	23.0	$3,090	$30,100,000
All-terrain cycles			
# owned	5.6	1.6	3,800
current expend	3.4	$586	$833,000

Category	Percent Reporting %	Mean	Projection
Tractors-less than 10 hp			
# owned	17.4	8.6	63,100
current expend	9.0	$1,550	$5,890,000
Tractors-10-20hp			
# owned	40.1	2.0	33,800
current expend	25.8	$2,950	$32,200,000
Tractors-21-30hp			
# owned	32.8	4.0	55,800
current expend	19.3	$3,650	$29,900,000
Tractors-31-50h			
# owned	36.1	2.6	40,400
current expend	19.9	$4,660	$39,200,000
Tractors-over 50hp			
# owned	24.1	7.0	71,400
current expend	12.6	$6,260	$33,400,000
Tractor attachments			
# owned	51.8	5.6	122,000
current expend	34.2	$2,040	$29,500,000
Replacement engines for tractors			
current expend	7.8	$1,090	$3,620,000
Replacement parts for tractors			
current expend	32.5	$1,460	$20,100,000

Category	Percent Reporting %	Mean	Projection
Pick-up trucks			
# owned	76.2	4.1	132,000
current expend	49.3	$7,060	$147,000,000
Dump trucks			
# owned	56.3	2.3	53,600
current expend	30.8	$6,990	$91,200,000
Tank trucks			
# owned	12.3	1.4	7,350
current expend	5.3	$1,790	$4,040,000
Trailers			
# owned	59.7	2.9	73,500
current expend	29.7	$992	$12,500,000



Category	Percent Reporting %	Mean	Projection
Irrigation pumps			
# owned	34.7	2.5	36,500
current expend	18.8	$1,060	$8,390,000
Sprinklers			
# owned	42.6	231	4,170,000
current expend	29.1	$3,910	$48,200,000
Electronic irrig controls			
# owned	23.2	12.9	127,000
current expend	17.4	$2,140	$15,700,000
Drainage pipe/tile/tubing			
# owned	6.4	1,540	4,200,000
current expend	14.3	$1,890	$11,400,000

Category	Percent Reporting %	Mean	Projection
Walk-behind mowers-rotary			
# owned	76.5	7.2	233,000
current expend	51.3	$1,530	$33,200,000
Walk-behind mowers-reel			
# owned	24.6	3.0	31,200
current expend	14.0	$934	$5,540,000
Riding mowers-rotary			
# owned	59.7	2.8	69,900
current expend	38.4	$4,080	$66,300,000
Riding mowers-reel			
# owned	30.3	3.5	45,200
current expend	19.0	$3,590	$28,900,000
Tractor drawn gangs			
# owned	33.3	2.3	31,800
current expend	17.4	$2,940	$21,600,000
Replacement engines for mowers			
current expend	19.6	$940	$7,810,000
Replacement parts for mowers			
current expend	34.7	$1,600	$23,500,000

Category	Percent Reporting (%)	Mean	Projection
Sod cutters/ harvesters			
# owned	29.7	1.2	14,800
current expend	13.4	$463	$2,630,000
Seeders			
# owned	40.6	2.2	38,200
current expend	16.2	$621	$4,270,000
Spreaders			
# owned	63.9	2.6	68,900
current expend	29.1	$372	$4,590,000
Soil aerifiers/ corers			
# owned	42.6	2.1	38,100
current expend	22.7	$762	$7,320,000

Category	Percent Reporting (%)	Mean	Projection
Sprayers			
# owned	74.8	12.5	397,000
current expend	41.5	$843	$14,800,000
Trenchers/pipe pullers			
# owned	14.0	1.3	7,470
current expend	6.7	$1,030	$2,920,000
Aerial bucket lifts			
# owned	12.9	3.3	17.900
current expend	7.8	$31,200	$104,000,000
Back hoes			
# owned	31.9	1.6	21,400
current expend	16.2	$5,170	$35,600,000
Chippers/shred			
# owned	19.0	2.9	23,000
current expend	9.0	$8,550	$32,500,000
Front end load			
# owned	53.2	1.7	38,900
current expend	24.6	$2,310	$24,200,000
Lake aerators			
# owned	5.9	2.8	6,880
current expend	2.5	$382	$408,000
Back-pack leaf/ trash blowers			
# owned	30.0	2.3	29,400
current expend	17.9	$340	$2,580,000
Walk-behind leaf/ trash blowers			
# owned	27.7	2.3	26,900
current expend	16.0	$434	$2,930,000

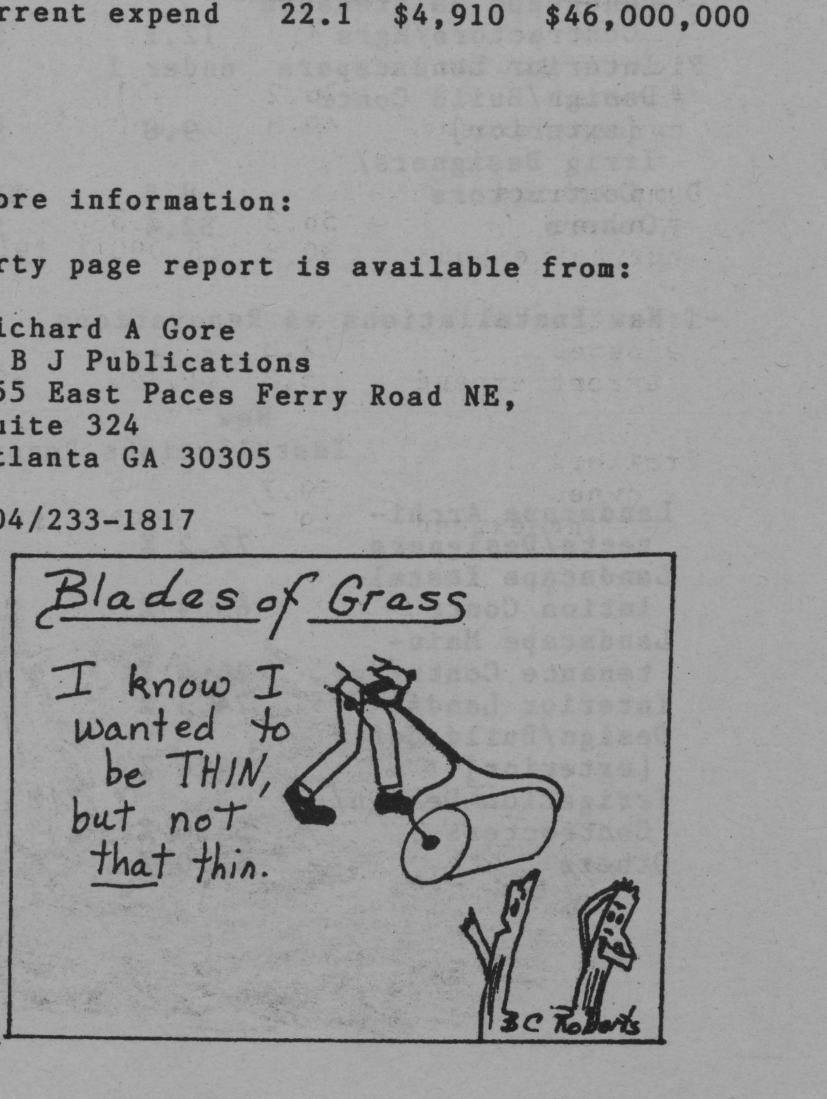
Category	Percent Reporting (%)	Mean	Projection
Line trimmers			
# owned	49.9	3.5	74,100
current expend	32.5	$467	$6,430,000
Brush cutters			
# owned	26.9	2.5	28,600
current expend	10.9	$407	$1,880,000
Tree care equip			
# owned	10.9	3.0	13,600
current expend	9.0	$841	$3,190,000
Generators			
# owned	35.6	2.1	31,200
current expend	17.9	$445	$3,380,000
Chain saws			
# owned	73.7	5.0	157,000
current expend	42.9	$581	$10,500,000
Portable engines			
# owned	10.1	2.8	11,900
current expend	3.1	$130	$170,000
Portable pumps			
# owned	36.7	2.0	30,500
current expend	15.7	$253	$1,680,000
Snow removal equip			
# owned	39.8	4.0	66,700
current expend	22.1	$4,910	$46,000,000

For more information:

Thirty page report is available from:

Richard A Gore
H B J Publications
455 East Paces Ferry Road NE,
Suite 324
Atlanta GA 30305

404/233-1817



From: Western Landscaping News

Survey 1983-Outlook 1984

INDUSTRY PROFILE

- A survey of Western Landscaping News - 17,000 professional subscribers' yielded high returns.

- Composition of the market:

  - 24 % landscape installation contractors;
  - 24 % landscape maintenance contractors;
  - 20 % landscape architects;
  - 6 % exterior design & building contractors;
  - 5 % interior landscapers;
  - 1 % irrigation contractors;
  - 20 % others

  ----
  100 % total

- Commercial projects accounted for 41 % of the market in 1983 with residential projects 40 % and public works projects 19 %.

- Size of Average Landscape Project:

	Size in Acres	Size in Dollars
Landscape Architects/ Designers	12.4	$140,060
Landscape Installation Contractors	2.0	$16,770
Landscape Maintenance Contractors/Mgrs	12.1	$41,300
Interior Landscapers	under 1	$2,230
Design/Build Contr [exterior]	9.8	$26,870
Irrig Designers/ Contractors	8.5	$102,000
Others	32.4	$93,080

- New Installations vs Renovations

	New Installations	Renovations
Landscape Architects/Designers	72.2 %	27.7 %
Landscape Installation Contr	66.9 %	33.0 %
Landscape Maintenance Contr/Mgr	36.4 %	63.5 %
Interior Landsc	74.3 %	25.6 %
Design/Build Contr [exterior]	74.4 %	25.4 %
Irrigation Design/ Contractors	55.0 %	45.0 %
Others	47.0 %	52.6 %

- Revenue by Business Area

	Gross $ Volume	Net Profit [before taxes]	% Net Profit
Landscape Arch/ Designers	$620,000	$70.400	11 %
Interior Lands	$602,900	$151,000	25 %
Landsc Install Contractors	$594,900	$61,520	10 %
Design/Build Contr [exter]	$561,300	$59,290	11 %
Lands Maint Contr/Mgrs	$256,300	$37,500	15 %

- Gross Dollar Volume

Under $10,000	0.7 %
$10,000 - $19,999	6.3 %
$20,000 - $29,999	2.7 %
$30,000 - $49,999	4.9 %
$50,000 - $79,999	12.1 %
$80,000 - $99,999	7.2 %
$100,000 - $249,999	27.2 %
$250,000 - $499,999	17.7 %
$500,000 & above	21.2 %

[percent of landscapers responding]

- Amount Spent on Selected Supplies & Equipment

	Dollars
Shrubs	4690
Trees	4160
PVC Pipe & fit	2495
Sod	2243
Trucks	2026
Sprinkler heads	2200
Irrigation controllers	1920
Fertilizer	1883
Ground covers	1842
Irrig valves	1816
Paving materials	1684
Soil amendments	1648
Mulch/bark	1645
Lights	987
Heavy equip	965
Herbicide	956
Drip irrig comp	955
Lawn mowers	846
Decor plant cont	682
Insecticide	635
Decor Fountains	407
Spas/hot tubs	369
Power trimmers	283
Growth regulat	200
Skylights	36

- The 10 Major Problems Facing Landscape Professionals

1. Lack of qualified personnel/quick turnover
2. Cut throat bidding
3. Tight money
4. Slow receivables/cash flow
5. Building slump
6. Unqualified competition
7. Increasing overhead
8. Shortage of work
9. Poor public perception of quality/cost ratio
10. Budget cutbacks

- Top 10 Opportunities in Landscaping for 1984

1. Renovations, remodels, upgrades
2. Computerization
3. Automated systems
4. Interior landscape and small area design
5. Maintenance
6. Increased public awareness of profession
7. Drought-resistant and low-maintenance designs
8. Consulting
9. Consumer sales/do-it-yourself market
10. Foreign market

National Garden Surveys

$

From: National Gardening Association

November 1985

GARDENING GROWS WITH AMERICA

- From 1984 to 1985 the number of households involved in one or more kinds of lawn and garden activity went up from 71,000,000 to 74,000,000. This is more than ever before in the United States.

- The most popular gardening activities are:

Lawn Care	56,000,000 [an increase from 54,000,000]
Houseplants	37,000,000 [a decrease from 39,000,000]
Flowers	36,000,000 [a decrease from 40,000,000]
Vegetables	33,000,000 [a decrease from 34,000,000]
Shrubs	26,000,000 [a decrease from 31,000,000]
Trees	18,000,000 [a decrease from 22,000,000]

- Geographic distribution of all lawns and gardens:

Midwest	27 %
South	28 %
East	24 %
West	20 %
Rural	29 %
Small town	9 %
Suburbs	37 %
City	24 %

- Gardeners ages:

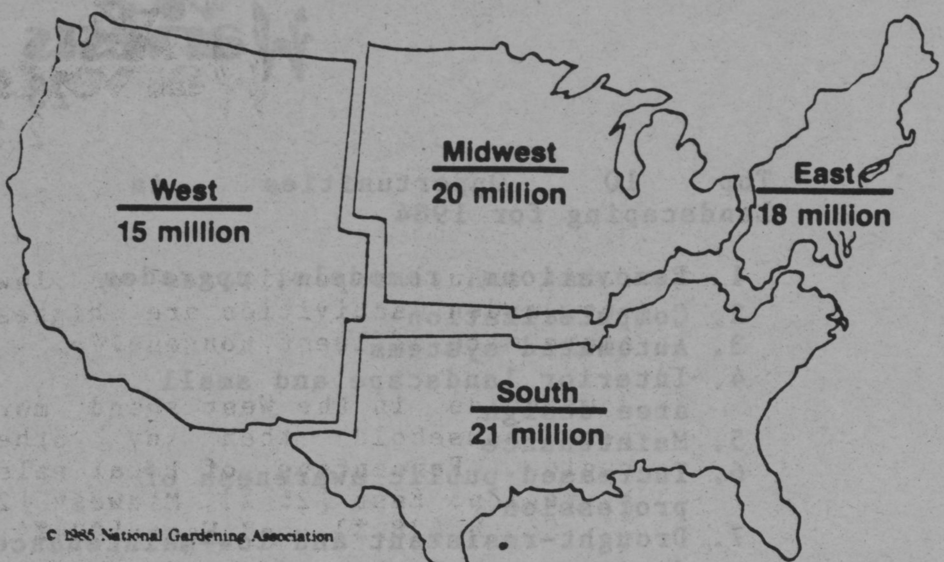
  - 24 % are 18 to 29 years old;
  - 39 % are 30 to 49 years old;
  - 36 % are 50 or older.

- Gardeners' incomes:

Under $10,000	20 %
$10,000 to $20,000	28 %
$20,000 to $40,000	36 %
over $40,000	16 %

- According to the U S Bureau of the Census by the year 1990 the number of U S households will increase to 97,000,000. By 1995 these should reach 104,000,000.

Households Involved in Lawn or Garden Activity



From: National Gardening Association

October 1984

GREEN THUMBS IN 83 % OF AMERICAN HOUSEHOLDS

- Gardening ranked as the number one outdoor leisure activity of U S households in 1984 - more popular than golf, jogging, biking, tennis and swimming.

- Most popular gardening activities involved:

Lawns	54,000,000	63 %
Flowers	40,000,000	47 %
Houseplants	39,000,000	46 %
Vegetables	34,000,000	40 %
Shrubs	31,000,000	36 %
Trees	22,000,000	26 %

- Gardeners' ages:

21 % are 18 to 29 years old;
36 % are 30 to 49 years old;
43 % are 50 or older.

From: Lawn and Garden Marketing

January 1984

GARDENS FOR ALL/GALLUP NATIONAL GARDENING SURVEY

- Lawn and Garden Activity *

Activity	1980	1981
Lawn care	52	65
Indoor house-plants	40	51
Flower gar-dening	37	47
Shrub care	31	43
Fruits & berries	21	35

* Percent of gardeners involved

From: Gardens for All's 1984-1985 National Garden Survey

RESULTS OF GARDENS FOR ALL 1984-1985 NATIONAL GARDENING SURVEY

- Trendline for Lawn and Garden Activities of U S Households

Activity	1981 %	1982 %	1983 %	1984 %
Lawn care	65	63	63	63
Flower gard	47	50	47	47
Indoor house-plants	51	48	43	46
Shrub care	43	42	35	36
Insect control	NA	39	32	38
Pruning	NA	34	29	32
Tree care	NA	30	25	26
Landscaping	NA	26	23	25
Fruit trees	19	22	20	18
Raising trans-plants	NA	18	15	17
Growing berries	11	13	12	11
Ornam Gard'g	5	7	5	4

- Retail Sales of Lawn and Garden Products in 1984 totaled $15.2 billion

Activity	1984 Retail Sales $ billions
Lawn care	4.4
Landscaping, Tree/Shrub care, Ornamentals	4.5
Flower gardening	2.1
Vegetable gardening	1.7
Indoor houseplants	.9
Insect controls	1.0
Fruit trees/berries	.6
Total	15.2

- How Long People Have Been Gardening

Length of Time	%
One year	8
Two years	5
Three years	6
Four years	5
Five years	5
Six years	6
Seven years	3
Eight years	4
Nine years	2
Ten or more years	53

- The Top 10 Gardening Problems in 1984

1. Insects: 35 %
2. Weeds: 23 %
3. Not Enough Water 16 %
4. Too Much Water 10 %
5. Animals 8 %
6. Growth of Plants 6 %
7. Weather: 6 %
8. Soil Conditions: 5 %
9. Lack of Attention 4 %
10. Blight: 1 %

- The Top 10 Sources of Gardening Information in 1984

Source	% of Gardeners Using %
1. Seed Packets	73
2. Information on package	56
3. From Friends	43
4. Newspapers	41
5. Relatives	36
6. Seed Catalog	30
7. Garden Books	29
8. Garden Magazines	29
9. Garden Store Pamphlet	22
10. General Interest Mag	21

For more information:

Complete results of this study are published in a 300 page report which sells for $250.00 per copy.

Contact:

Nancy Flinn, Public Relations
Gardens for All
180 Flynn Ave
Burlington VT 05401

802/863-1308

From: Gardens For All's 1983-1984 National Gardening Survey

RESULTS OF GARDENS FOR ALL 1983 - 1984 NATIONAL GARDENING SURVEY

- An Overview of Lawn and Garden Consumers

 * Men spend more money on the average than women.

 * Principal consumers are 30-49 years of age [37 % of sales] and 50 years of age and older [38 % of sales].

 * College educated households spend the most per household on lawn and garden activities, but make up about the same percentage of total sales [48 %] as high school educated households [46 %].

 * Total annual expenditures on lawn and garden activities are highest among more affluent households.

 * Households in the West spend more per household than any other region. Percentage of total sales by region: East [26 %], Midwest [23 %], South [28 %], and West [23 %].

 * Purchases by married households make up a majority of lawn and garden sales.

 * Suburban households spend the most on lawn and garden activities. Percentage of total sales: Suburbs [34 %], Rural areas [28 %], Cities [24 %], and Small Towns [13 %].

 * Lawn and garden retail sales in 1983 totaled an estimated $12 billion.

- Lawn Care:

 * The lawn and garden activity with the highest participation. 63 % of all U S households involved in 1983. fifty-three million households participated.

 * Greatest following in the Mid-West. Among middle-aged and older people.

 * Principal markets: Suburbs and Rural areas. Mid-Atlantic, Rest of South, Pacific and East Central states.

 * College educated and upper income households spend the most.

- In 1983, 52 % of the nation's gardeners spent over two million dollars just on insect controls. The National Gardening Survey revealed that insects are the number two problem gardeners encounter.

- Gardening Ranks as Nation's # 1 Outdoor Leisure Activity in 1983

Leisure Activity	% of all Households
Watching television	81
Listening to music	64
Lawn Care	63
Reading Books	54
Flower Gardening	47
Pleasure trips in car	44
Going to movies	43
Vegetable Gardening	42
Watching pro-sports on TV	39
Home baking	38
Vacation trips in US	34
Sewing/needlepoint	32
General exercise/physical fitness	31
Fishing	31
Workshop/home repair	29
Bicycling	22
Camping	20
Photography	20
Bowling	20
Jogging	19
Hunting	16
Tennis	12
Golf	12

Note: Totals add to more than 100 % due to multiple responses

- Lawn and Garden Trendline 1981-1983

Year	% of all U S households	Number of households
	%	millions
1981	84	68
1982	86	71
1983	82	70

- 1983 Lawn and Garden Around the Country

Region	% of all U S households	Number of households
	%	millions
East	80	18.2
Midwest	91	21
South	77	18.2
West	84	12.6

For more information:

Complete results of this study are published in a 300 page report which sells for $250.00 per copy.

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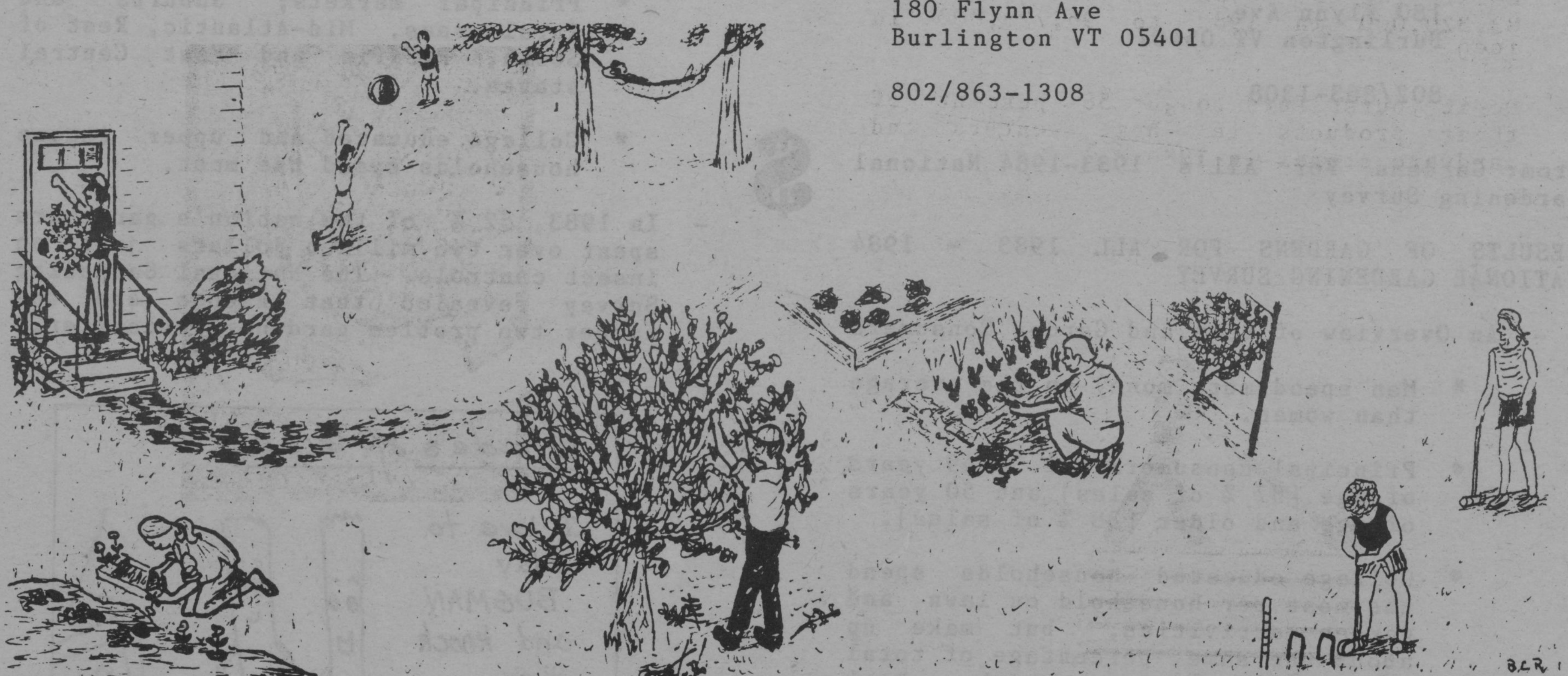


DO-IT-YOURSELF LAWNCARE

From: Lawn and Garden Marketing

January 1983

AMIDST THE NUTS 'N BOLTS - LAWN AND GARDEN

- A front-line observer of the ongoing revolution in retailing tells how and why hardware stores and home centers have taken an expanded role in marketing lawn and garden products.

- Seventy-one percent of do-it-yourselfers planned to maintain their own lawns, while 82 percent would consider maintaining their own lawns.

- Of these do-it-yourself customers, 44.2 percent bought seed and fertilizer, 22.3 percent bought garden hose, 19.9 percent bought tools and equipment, and 4.5 percent bought and installed their own sprinkler system.

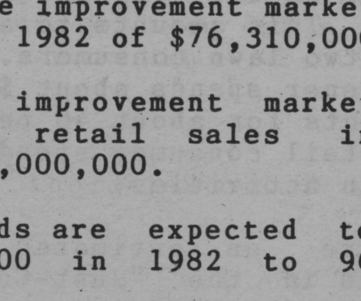
- The do-it-yourself market advances 14 percent annually between 1980 and 1990.

- The home improvement market had retail sales in 1982 of $76,310,000,000.

- The home improvement market is expected to have retail sales in 1990 of $187,300,000,000.

- Households are expected to grow from 83,320,000 in 1982 to 96,723,000 in 1990.

- Do-it-yourselfers bought 58 percent of their products in home centers and hardware stores in 1980.



From: Lawn and Garden Marketing

October 1983

DO-IT-YOURSELFERS LOYAL TO LAWN CARE TASKS

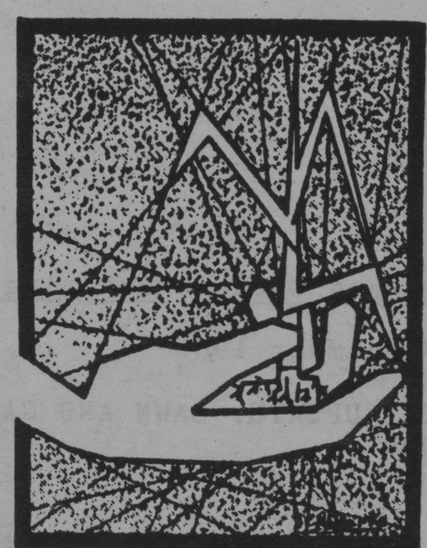
- In 1983, sixty-three percent of U S households reported some activities involving lawn care. This is down from sixty-five percent in 1981.

- Nationwide approximately $4,240,000,000 was spent for do-it-yourself lawn care products.

- Approximately 53,000,000 households have lawns in 1983 compared with 37,000,000 in 1978.

- Average expenditures per U S household reporting do-it-yourself home horticulture activities in 1983:

Activity	Average
Lawn care	$80.00
Flower gardening	38.00
Shrub care	43.00



Marketing of Lawn and Garden Products

From: Weeds Trees and Turf

September 1985

DISTRIBUTORS: OPTIMISTIC BUT WARY

- Green industry suppliers are becoming more aggressive in a business economy that promises good rewards, but also keener competition and tighter margins;

- Almost 83 percent of those responding to a survey anticipated increased sales in the coming year with 12 percent feeling business will remain about the same. Five percent thought sales would drop.

From: Lawn and Garden Marketing

January 1985

GEOGRAPHIC BREAKDOWN OF AMERICA'S GARDENERS

- In 1984 there were 85,400,000 U S households:

Midwest	22,000,000
South	25,200,000
East	21,600,000
West	16,600,000
	85,400,000

- Of these 85,400,000 households, the following percentages are involved in lawn and gardening activities:

Midwest	88 %
South	82 %
East	78 %
West	84 %

From: Lawn and Garden Marketing

November-December 1985

1985 MARKET UPDATE: LAWN AND GARDEN TRENDLINE AND OUTLOOK

- The 1985 National Gardening Survey conducted by the Gallup Organization for the National Gardening Assoication found in total 84 percent of all U S households or an estimated 74,000,000 households participated in at least one form of indoor or outdoor lawn and garden activity during the past year.

- The annual growth in the number of U S households during 1980 to 1985 has been more important to increasing the consumer base for lawn and garden sales than a change in the percentage of houeholds participating;

- In 1980 there were 80,000,000 households; in 1985 there were an estimated 87,900,000 households;

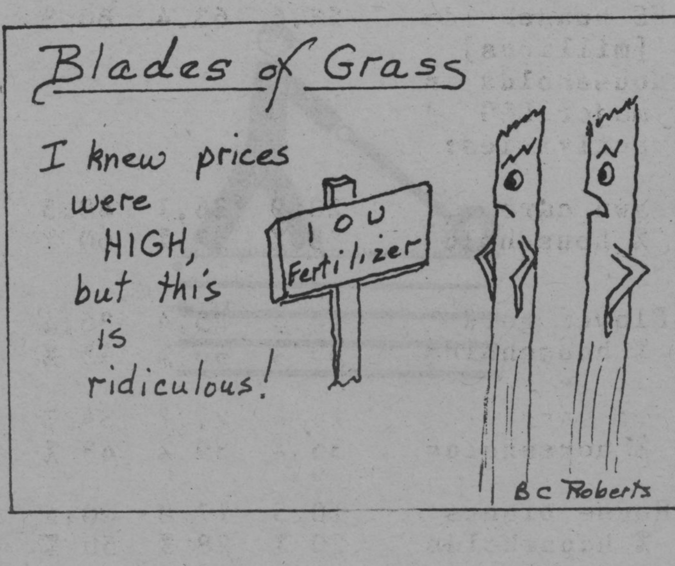
- As the "baby boom" generation ages, it will become an even bigger consumer of lawn and garden products;

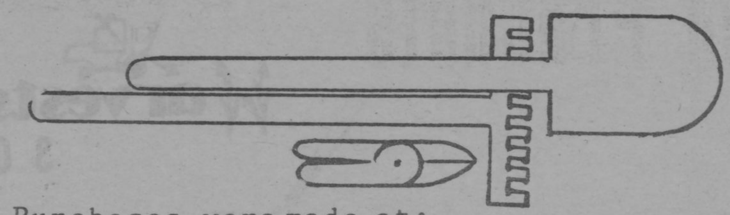
- About one out of three lawn and garden households or an estimated 23,000,000 households is in the Landscape Gardener category. These houeholds spend on the average more than $300 annually and account for about 50 percent of the total retail consumer spending on lawn and garden activities;

- There are an estimated 37,000,000 U S households in the Typical Home Gardener category. This amounts to about one out of every two lawn consumers. A Typical Home Gardener spends about $200 annually and accounts for about 40 percent of the total retail consumer spending on lawn and garden activities;

- There are an estimated 11,000,000 households in the "Just-Cut-The-Grass" category or about 15 percent of all lawn and garden participants. These households spend on the average of about $85 on lawn and garden activities each year. They account for an estimated 10 percent of total consumer retail spending on lawn and garden activities;

- Lawn and garden product purchases made in 1985 was estimated at $15,000,000,000.





- Purchases were made at:

Garden center or retail nursery	49 %
Mass merchandiser-discount store	32 %
Hardware store	29 %
Super market - drug store	19 %
Seed and feed store	17 %
Home center	15 %
Mail order	9 %

- Items purchased:

Fertilizer	63 %
All types of seed	58 %
Nursery stock	42 %
Pesticides	43 %
Indoor houseplants & supp	39 %
Pots and containers	32 %
Garden tools	27 %
Soil amendments	25 %
Watering equipment	24 %
Power equipment	14 %
Lawn and garden books	9 %

- Trendline: U S Household Participation in Lawn and Garden Activities

CONSUMER ACTIVITY	1981 %	1981 mill	1982 %	1982 mill	1983 %	1983 mill	1984 %	1984 mill	1985 %	1985 mill
Lawn care	65	52	63	52	63	53	63	54	64	56
Flower gard	47	38	50	41	47	40	47	40	41	36
Shrub care	43	35	42	35	35	30	36	31	30	26
Tree care	na	na	30	25	25	21	26	22	20	18

- Twenty-five Years of Industry Growth

	1960	1970	1980	1985
US households [millions]	52.6	63.4	80.8	86.8
Households in major L&G activities:				
Lawn care	28.9	36.1	48.5	56
% households	55 %	57 %	60 %	65 %
Flower gard	18.4	25.4	36.4	37
% households	35 %	40 %	45 %	41 %
Veg gard	18.4	24.7	34.7	33
% households	35 %	39 %	43 %	38 %
House plants	10.5	17.8	40.4	37
% households	20 %	28 %	50 %	43.6 %

From: Lawn and Garden Marketing

November-December 1985

NOW HOUSING BUOYS OUTDOOR POWER EQUIPMENT SALES

- The economists who help outdoor power equipment manufacturers plan production levels of lawnmowers each year keep a sharp eye on interest rates and on new housing starts.

- The 13 percent increase in new housing starts in 1984 compared to 1983 helped the lawn and garden industry at mid-1985 project an increase in unit shipments of 8 or 9 percent.

- If one is to count 1950 as the beginning of building suburbs, suppliers and retailers made some fast gains during the first three decades.

From: Outdoor Power Equipment

November 1985

WOW ! TOTAL SALES FOR LAWN/GARDEN INDUSTRY TO TOTAL $22,100,000,000 BY 1990

- **1984 sales were estimated to have been $11,900,000,000; 1990 sales are projected at $22,100,000,000 - more than double that in 1984.**

- **Sales of tools and equipment is expected to increase 8 % annually.**

- **Sales of lawn and garden supplies is expected to increase 7 % annually:**

- **Professional lawn care services are expected to increase 19 % annually.**

- **An increase of 9,000,000 Americans is projected in the next five years for the 25-64 age group - the prime population involved in lawn and garden care.**

- **83 percent of all U S households participate in gardening.**

- **Increasing family income directly results in increases in spending on lawn and garden care.**

For more information

On The Packaged Facts Study of the Lawn and Garden Care market, a 235 page report is available at a cost of $995.00

Contact: Packaged Facts
274 Madison Ave
New York NY 10016

From: Garden Supply Retailer

September 1985

OUTDOOR POWER EQUIPMENT FORECAST

- Gross National Product is forecast to rise by 2.5 % in 1986;
- Housing starts are expected to be down 11 % in 1986, but continue to be well above 1980-1983 levels;
- The Consumer Price Index projects inflation to be contained under 4% for the fourth consecutive year in 1986;
- The Producer Price Index is expected to rise slightly from 2.2% in 1985 to 3.6% in 1986;
- The Prime Interest Rate forecast at 11.6% next year is also expected to remain controlled and less volatile than in the past;
- The nationnal unemployment rate will remain virtually unchanged in 1986;
- A slight weakening of the dollar against European currencies is expected;
- **Advertising and capital expenditures for 1986 are forecast to increase among outdoor power equipment firms - advertising increases of 4-5 percent compare to capiital expenditure increases of 12-13 percent;**
- **In 1986 4 percent fewer riding mowers and 2 percent fewer walk-behind mowers are expected to be sold.**
- **The following trends are projected:**

Equipment	Projected 1985	Forecast 1986
Rear engine riding mowers	359,000	349,000
Front engine lawn tractors	537,000	520,000
Walk behind rotary mowers	5,125,000	4,990,000

From: Lawn and Garden Marketing

August 1985

OUTDOOR POWER EQUIPMENT SHIPMENTS TO PASS FIVE YEAR RECORD

- Shipments of walk-behind mowers for the first time in five years are projected to surpass the 5,000,000 unit market.
- Capping a five-year tend, rear engine riding mower shipments have topped 359,000 this year.
- Walk-behind rotary mower have projected shipments of:

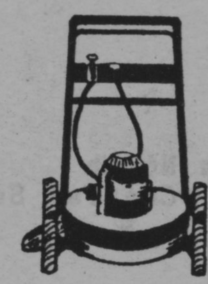
  1985 - 5,125,000
  1986 - 4,990,000

From: Garden Supply Retailer

October 1984

EQUIPMENT FORECAST LOOKS GOOD FOR '85

- **Outdoor Power Equipment Institute manufacturers' shipments are forecast to increase in most product categories during the next year:**
  - **Walk-behind rotary power lawn mowers - 5,015,000.**
- **This projection is based on a:**
  - **Gross National Product increase of 3.5% in 1985;**
  - **Disposable personal income is expected to increase by 3.6 % in 1985;**
  - **Consumer Price Index should increase by 5.6 % in 1985;**
  - **The Producer Price Index should increase by 5.4 % in 1985;**
  - **The Prime Interest Rate forecast of 12.5 % is still below rates of the early 1980s;**
  - **Housing starts are forecast at 1,590,000;**
  - **There should be a modest reduction in unemployment rate in 1985;**
  - **The dollar is expected to weaken some in 1985.**
- **After strong years on 1985 and 1986, the industry is expected to dip in 1987 and then recover dramatically in 1989.**



From: Lawn and Garden Marketing

January 1983, November-December 1983 and January 1985

POWER EQUIPMENT REPORTS

- Key Lawn and Garden Shipments - 1982 Model Year [Estimated]

Product	Unit shipments 1982	1981	Change %
Walk-behind power mower	4,600,000	4,600,000	....
Lawn tractors/ riding mowers	654,000	620,000	+5.5
Front engine	393,000	370,000	+6.2
Rear engine	261,000	250,000	+4.4

Product	F O B Shipm Value 1982	1981	Change %
	million dollars		
Walk-behind power mower	674	606	+11.2
Lawn tractors/ riding mowers	549	453	+21.2
Front engine	359	291	+23.4
Rear engine	190	162	+17.3

- Key Lawn and Garden Shipments - 1983 Model Year [Estimated]

Product	Unit shipments 1983	1982	Change %
Walk-behind power mower	4,400,000	4,600,000	-4.3
Lawn tractors/ riding mowers	691,000	654,000	+5.7
Front engine	415,000	393,000	+5.6
Rear engine	276,000	261,000	+5.7

Product	F O B Shipment Value 1983	1982	Change %
	millions dollars		
Walk-behind power mowers	695	674	+3.1
Lawn tractors/ riding mowers	600	549	+9.3
Front engine	395	359	+10.0
Rear engine	205	190	+7.9

- Key Lawn and Garden Categories - 1984 Model Year [Estimated]

Product	Unit Shipments 1984	1983	Change %
Walk-behind power mowers	4,950,000	4,400,000	+12.5
Lawn tractors/ riding mowers	856,000	691,000	+23.9
Front engine	502,000	415,000	+21.0
Rear engine	354,000	276,000	+28.3

Product	F O B Shipm Value 1984	1983	Change %
	million dollars		
Walk-behind power mowers	742	695	+6.8
Lawn tractors/ riding mowers	760	600	+26.7
Front engine	484	395	+22.0
Rear engine	278	205	+35.6

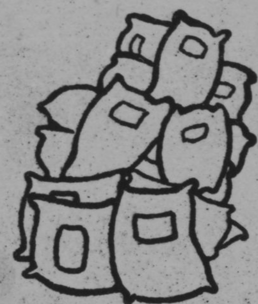
From: Lawn and Garden Marketing

February 1983, August 1983, October 1983, February 1984, February 1985, August 1985, November-December 1985

PRODUCT MOVEMENT REPORTS

- Autumn 1982

		Total	North east	North Central	South	West
		%	%	%	%	%
Grass seed	Up	31.4	26.9	40.7	42.1	7.1
	Same	39.5	50.0	33.4	21.0	57.2
	Down	14.0	3.9	22.2	15.8	14.2
Lawn fert.	Up	37.7	33.3	47.1	38.5	25.0
	Same	41.5	40.0	29.4	53.8	50.0
	Down	18.9	26.7	23.5	7.7	12.5



		Total %	North East %	North Central %	South %	West %
- Spring 1983						
Grass seed	Up	30.4	41.7	26.9	32.3	9.1
	Same	35.9	20.8	30.8	51.6	36.4
	Down	30.4	29.2	38.5	16.1	54.5
Lawn fert	Up	35.4	29.0	35.7	38.0	38.5
	Same	34.3	34.2	29.9	40.0	34.6
	Down	24.8	34.2	25.4	18.0	23.1
Walk-behind mowers	Up	30.3	43.6	29.5	22.4	31.3
	Same	36.3	30.8	33.3	48.3	31.3
	Down	20.4	15.4	24.5	15.5	21.8
Riding mowers/ lawn tractors	Up	22.9	28.2	22.6	27.6	9.4
	Same	31.6	30.7	29.3	32.8	37.4
	Down	16.5	10.3	17.7	17.2	18.8
- Summer 1983						
Walk-behind mowers	Up	31.1	26.5	19.9	45.0	43.2
	Same	36.6	42.9	37.6	31.7	34.0
	Down	20.5	16.3	26.7	16.6	16.0
Riding Mow/ LTs	Up	33.8	20.6	33.3	55.6	20.9
	Same	29.8	44.2	24.6	22.1	33.3
	Down	26.5	26.4	33.3	16.7	25.0
Herbicides	Up	33.0	26.4	12.8	54.6	36.4
	Same	43.5	47.3	55.0	24.3	63.6
	Down	13.9	21.0	22.5	6.0	....
Insecticid	Up	40.4	26.3	41.9	51.6	27.3
	Same	37.3	31.5	41.9	27.3	63.6
	Down	17.0	36.9	16.2	9.0	9.1
- Autumn 1983						
Grass seed	Up	38.2	38.5	46.1	31.2	29.0
	Same	40.6	51.8	34.2	37.5	41.9
	Down	13.5	7.8	14.5	18.8	13.0
Lawn fert	Up	27.5	37.5	20.0	29.6	23.6
	Same	37.2	34.3	40.0	33.4	41.1
	Down	34.4	28.2	37.5	37.0	35.3
- Autumn 1984						
Grass seed	Up	48.6	54.6	62.2	41.2	39.3
	Same	31.9	31.8	27.0	27.5	46.4
	Down	8.7	4.6	2.7	11.8	14.3
Lawn fert	Up	35.1	30.8	21.1	42.3	43.7
	Same	46.0	61.5	47.4	42.3	37.5
	Down	17.6	7.7	26.4	15.4	18.8

		Total %	North East %	North Central %	South %	West %
- Spring 1985						
Grass seed	Up	41.5	56.0	44.5	36.0	25.0
	Same	39.6	28.0	38.8	44.0	50.0
	Down	8.5	12.0	8.4	4.0	10.0
Lawn fert	Up	47.2	52.0	47.2	36.0	55.0
	Same	30.2	36.0	36.1	24.0	20.0
	Down	16.0	4.0	13.9	32.0	15.0
Walk-behind mowers	Up	36.7	32.0	40.0	40.9	31.3
	Same	39.9	52.0	42.8	27.3	31.3
	Down	6.1	....	2.9	13.6	12.4
Riding mow/ LTs	Up	27.5	24.0	37.1	27.3	12.6
	Same	17.3	32.0	14.3	9.1	12.4
	Down	7.2	....	2.9	13.6	18.8
- Summer 1985						
Herbicides	Up	20.1	22.5	18.3	18.2	24.7
	Same	25.8	26.2	23.5	27.0	28.5
	Down	5.8	4.0	8.0	5.7	3.9
Insecticid	Up	27.0	33.3	24.9	25.2	26.0
	Same	24.6	21.8	21.6	27.7	31.1
	Down	4.7	2.3	6.6	5.0	2.6
Walk-behind mowers	Up	31.9	37.2	28.1	33.3	29.9
	Same	24.7	21.7	26.3	25.2	24.6
	Down	14.9	10.1	22.1	9.4	14.3
Riding mow/ LT	Up	26.1	37.2	19.7	27.6	22.1
	Same	15.2	10.9	18.3	15.7	13.0
	Down	12.3	9.3	16.9	7.6	14.3

$ From: Garden Supply Retailer

December 1984

WHAT'S SELLING IN WATERING PRODUCTS

- Retail stores report only about 5 percent of their total revenue comes from sales of watering products;

- Products available in stores:

Sprinklers	95 % of stores
Garden hose	94 % of stores
Watering cans	91 % of stores
Hose reels on hangers	63 % of stores
Hose nozzles	59 % of stores
Hose repair	43 % of stores
Underground systems	28 % of stores

From: Lawn and Garden Marketing

November - December 1985

WHOLESALERS REPORT CHEMICAL SALES UP

- Distributors of wholesale lawn and garden chemcials are reporting substantial gains in 1985 over 1984 sales to retailers and are projecting even better gains in 1986;

- Though 1985 saw an 18.8 percent change in median dollar sales to retailers, according to distributors 1986 should produce a positive 31.8 percent change over 1985- a 56.6 percent change over the two-year period.

From: Lawn and Garden Marketing

February 1985

CHEMICALS AND FERTILIZERS

- The market for pesticides, fertilizers and soil conditioners is $1,500,000,000 in manufacturer's dollars;

- The 1984 Gallup survey of consumers placed the market for insect control proudcts purchased at retail at $1,000,000,000. The question in the survey by Gallup included fertilizer, herbicides and related products in the general category of lawn care. Therefore, the expenditures for individual products are not easily identifiable.

From: Lawn and Garden Marketing

January 1985

CHEMICALS, FERTILIZERS: $1,500,000,000 MARKET

- Preliminary estimates indicate that consumers will have spent $1,500,000,000 for lawn, garden and house-plant chemicals in 1984, an increase of about 6 % annually since 1980.

Item	Percent of Total Sales
Fertilizers	40
Insecticides	35
Herbicides Soil Conditioners Rodenticides Fungicides	25
	100

- More than 250 companies sell these products to consumers.

- Market leaders include:

  O M Scott [ITT]
  S C Johnson
  Ortho [Standard Oil of California]
  American Home Products
  Estech [Esmark]

- Sales Forecast for Consumer Pesticides and Fertilizers *:

Product	1984	1989	% Increase per year
Fertilizers	590	800	6.2
Insecticides	530	800	8.6
Soil conditioners	150	215	7.7
Herbicides	100	135	6.2
Potting soils	85	110	7.1
Rodenticides	35	46	8.8
Fungicides	10	14	7.0
	$1,500	$2,120	7.1

* Millions of current manufacturers dollars [assuming annual inflation rate of 5 %]

- Estimated Sales by Retail Class:

Lawn and Garden Centers	28 %
Discount Department Stores	21 %
Supermarkets and Grocery Stores	20 %
Hardware Stores	10 %
Farm Supply Stores	10 %
Other	11 %

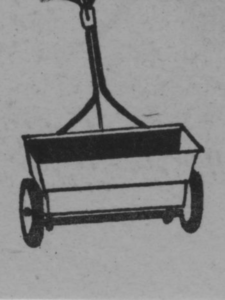
From: Lawn and Garden Marketing

November - December 1985

FERTILIZER USAGE ESTIMATED FOR 1984

- Non-farm fertilizers are only about 3 percent of the total fertilizer distributed;

- In 1984 2,100,000 tons of non-farm specialty packaged fertilizers were distributed.



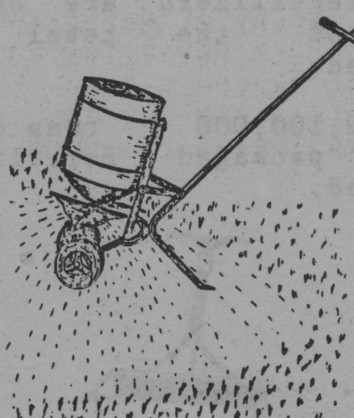
- Tonnage of Non-Farm Use Fertilizer
  [for year ending June 30,1984]

State	Total fertilizer distributed	Non-farm specialty packaged	Percent of total
Alabama	899,254	21,132	2.35
Alaska *	9,212	200	2.17
Arizona *	291,496	29,295	10.05
Arkansas	882,693	4,520	0.51
California	4,126,504	208,347	5.05
Colorado	543,262	24,755	4.56
Delaware	88,168	1,238	1.40
Florida	1,984,556	170,264	8.58
Georgia	1,913,198	2,785	0.15
Illnois	4,193,039	46,396	1.11
Indiana	2,625,308	30,000	1.14
Kansas *	1,330,877	78,882	5.93
Kentucky	998,895	4,497	1.45
Louisiana	723,517	21,564	2.98
Maine	91,951	3,297	3.59
Massachusetts	48,171	6,350	13.18
Michigan	1,485,588	20,766	1.40
Minnesota	1,805,405	11,266	0.62
Mississippi	869,543	11,134	1.28
Missouri	1,568,742	11,742	0.75
Montana	464,735	1,768	0.38
Nebraska *	1,474,682	12,218	0.83
Nevada	29,829	12,322	41.31
New Jersey	230,646	68,023	29.49
New York *	604,992	72,599	12.00
North Carolina	1,742,674	13,893	0.80
North Dakota	551,078	5,511	1.00
Ohio	1,855,900	27,838	1.50
Oklahoma	796,235	15,249	1.92
Oregon	484,703	9,217	1.90
Pennsylvania	513,636	69,417	13.51
Rhode Island	23,663	12,767	53.95
South Carolina	701,822	24,563	3.50
South Dakota **	418,840	4,300	1.03
Tennessee	721,081	5,123	0.71
Texas *	2,394,591	110,830	4.63
Virginia	746,962	37,862	5.07
Washington	869,317	......	....
West Virginia	51,721	5,015	9.70
Wisconsin	1,519,359	32,925	2.17
Wyoming **	137,659	1,364	0.99

* Data from reports of year ending June 30,1983
** Data from reports of year ending June 30,1982

CT,HI,ID,IA,MD,NH,NM,UT,VT did not make reports of fertilizer distribution for fiscal 1982,1983 or 1984.

Source: Association of American Plant Control Officials.



From: Lawn and Garden Marketing

October 1984

ONE SUPPLIER'S VIEW OF THE FERTILIZER BUSINESS

- The Andersons' fertilizer division is in its 21st year;
- It is now the fifth largest lawn and garden fertilizer manufacturer out of the 200 companies supplying the green industry;
- Over 500 finished products - fertilizers, insecticides, herbicides, fungicides and many combination products are produced;
- Package sizes range from 5 pounds to 60 pounds;
- Lawn fertilizers are distributed to 35 states About two-thirds of the products are sold to retailers.

From: Lawn and Garden Marketing

October 1984

LAWN FERTILIZER UPDATE

- The lawn care operators who apply liquid fertilizers make more people aware of the beauty of green lawns and some so-it-yourselfers are encouraged to apply their own fertilizer after seeing the results of the liquid applications on their neighbors lawns;
- Larger lawns of one acre or more are more likely to be fertilized with granular fertilizer;
- There is an increasing number of private label granular fertilizers;
- Fertilizer sales were up in 1984 with a median increase of 15 percent. In the survey, 42.1 % of the respondents indicated sales were up; 37.7 % said sales were about the same; 9.6 % reported a sales decrease with a range of from 8 to 30 percent and a median decrease of 10 %;
- Households are spending from $1,500,000,000 to $1,800,000,000 annually with contract applicators with annual sales increasing 20 to 25 % a year. Total sales within 5 years are expected to be at $4,000,000,000.

From: Grounds Maintenance

September 1985

MARKETERS PREDICT KENTUCKY BLUEGRASS SEED SHORTAGE

- In eastern Washington and northern Idaho the crop appears to be 45 to 50 percent of normal. Some varieties are 65 to 70 percent of normal; others are 35 to 40 percent of normal;

- Carryover of Kentucky bluegrass from 1984 is minimal to non-existent.

From: Weeds, Trees and Turf

June 1985

GARDEN CENTERS JOIN DISCOUNTERS

- Discount stores have captured the largest share of the $1,400,000 consumer pesticide and fertilizer market. This amounts to 31 percent for discount stores compared to 23 percent for garden centers and 21 percent for supermarkets and grocery stores.

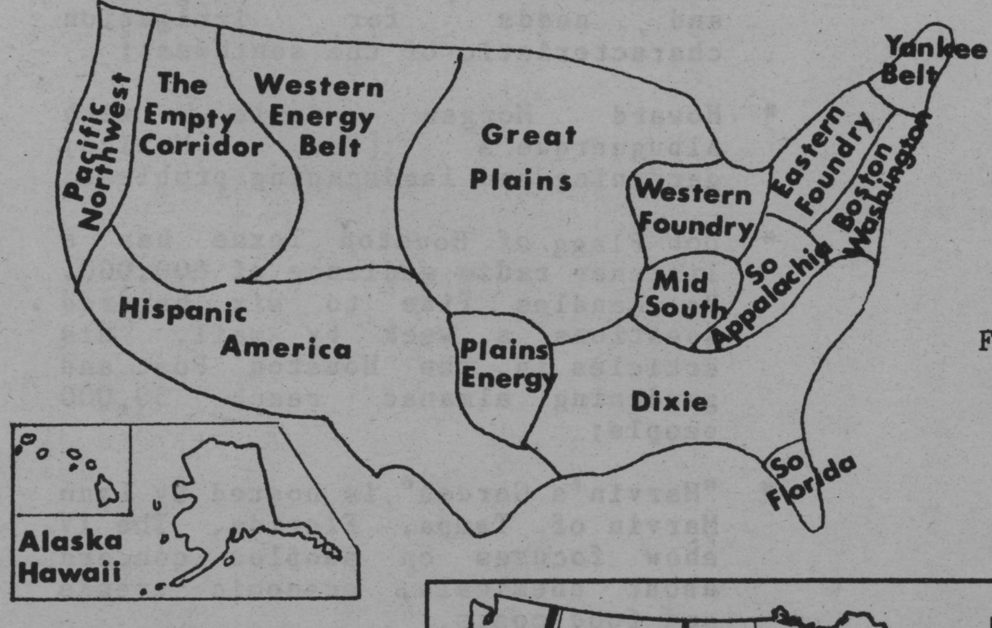
From: Lawn and Garden Marketing

March 1983

NEW WAY PROPOSED TO MAP U S MARKETING REGIONS

- Fifteen marketing regions have been defined on the basis of homogeneity of characteristics;

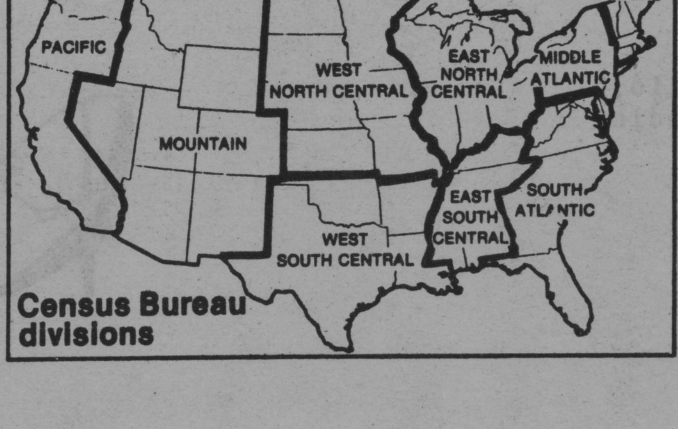
- Each region's components have similar growth potential, ethnic composition, income quality and shopping center saturation;



Consumer Products Marketing Regions

As defined by Management Horizons Inc.

Source: Management Horizons Inc.



Source: U.S. Department of Commerce, Bureau of the Census, and Management Horizons Inc.

From: Lawn and Garden Marketing

March 1983

NURSERY MARKETING COUNCIL:: EXCITING THE PUBLIC ABOUT PLANTS

- A six-year old program of the American Association of Nurserymen, using radio as sale medium to reach the public is based on consumer research;

- All home owners in the United States and Canada can be placed in three distinct groups of consumers. These groups are based on shared clusters of attitudes and behavior related to their yards and yard care activities;

- While each group is different, ranging from maximum to light involvement, virtually all were purchasers [93 percent] of living plants and related products and services;

- All showed some degree of willingness to consume more when reminded of the basic motivators of enhanced beauty and increased property value.

- The average annual expenditures ranged from $285 for the most involved group members to $70 for the least involved group;

- Roughly 80 percent of all homeowners have an on-going plan for the landscaping of their home;

- Nearly 70 percent of purchasers agree that they often buy on the "spur of the moment";

- Fifty-five percent of the highest involvement group and 97 percent of the lowest involvement group felt that they did not spend a lot for plants and related products.

For more information

on the Nursery Marketing Council's research study

Contact

Paul Dawson
Director of Marketing
Nursery Marketing Council
230 Southern Bldg
15th and H Sts NW
Washington DC 20005

From: Lawn and Garden Marketing

April-May 1983

RETAILERS: ARE YOU TUNED IN ? THEY'RE SPEAKING TO YOUR BEST CUSTOMERS

- These 18 garden communicators represent just the tip of the iceberg in their field:

  * Once a week for its 13 week run, one segment of Dick Raymond's "The Joy of Gardening Show" may be viewed by 29,926,300 households on 52 channels coast to coast.

  * The weekly mail for Jim Bennett's "The Weekend Gardener" TV show has run as high as 5,000 letters. The program is carried by 200 cable network stations and 25 commercial stations and reaches 41,000,000 households in 49 states;

  * "Victory Garden" hosted by Bob Thomson is presented each week by 200 to 230 PBS-TV stations. It is beamed to 75 to 80 % of the country or about 66,000,000 households;

  * Herb Gundell is garden writer for the Denver Post. He has used his column, the radio and TV. The "Weekend Gardener" is viewed by approximately 25,000 each Saturday. "The Green Thumb" radio program and "County Fair Garden Show" reach as many as 30,000 listeners;

  * Also in Denver is Ed Greene host of "Greene's Thumb" TV program;

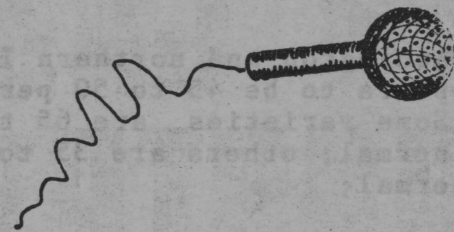
  * Jack Eden is host of "Garden of Eden" radio show in Washington DC. His weekly call-in show "Over the Garden Fence" averages 1,000 calls per show;

  * Randall Pure "The Plant Doctor" on Montreal radio has published "Keeping Them Alive" as an aid in helping gardeners;

  * In the Miami Valley [Ohio] area it's Harry Butler on radio and TV. He serves as local plant, farm and garden expert;

  * George Wedel talks "Over the Garden Fence" to his listeners in the Kalamazoo Michigan area;

  * Virginia Beatty is on CBS radio, Chicago. She is a three media person;



  * Perennially the highest rated radio show in Kansas City is the lawn and garden "Tobin Show". Toby Tobin captures 35.9 percent of the radio audience in its time period. This amounts to 68,700 listeners each quarter hour;

  * Deborah Brown is Extension Horticulturist, University of Minnesota. She has a special interest in Horticultural Therapy;

  * Ed Hume is a household name to gardeners in Washington, Oregon, Idaho, Montana, part of Wyoming, southern Alaska, British Columbia, Alberta and part of Saskatchewan;

  * Since 1975, San Francisco area residents have been calling in their gardening questions to Bert Bertolero "The Dirt Gardener". He reaches 38,800 listeners each week;

  * Rosalie Doolittle of Albuquerque, New Mexico deals with the special gardening problems associated with soil alkalinity; hot, drying winds and needs for irrigation characteristic of the southwest;

  * Howard Morgan deals with Albuquerque's [New Mexico] gardening and landscaping problems;

  * Bob Flagg of Houston Texas has a listener radio audience of 600,000. He handles five to six hundred questions a week by mail. His articles in the Houston Post and gardening almanac reach 50,000 people;

  * "Marvin's Garden" is hosted by Lynn Marvin of Tampa, Florida. The TV show focuses on peoples concern about chemicals, economic trends and food costs.

LAWN CARE INDUSTRY

From: Weeds Trees and Turf

November 1985

THE MONEY MACHINE

- Chemical lawn care revenues increased 40.2 percent from 1983 to 1984;
- Chemical lawn care and landscape management companies predicted that their expenditures on chemicals, equipment and seed would be $415,500,000 in 1985. This would amount to an increase of 22.45 percent over 1984 expenditures;
- Granular fertilizer use is up 13.5 percent;
- Liquid fertilizer use is up 8.6 percent;
- Pre-emergent herbicides are up 4.6 percent;
- Insecticides are up 23.2 percent;
- Seeding is up 53.9 percent;
- Post-emergent herbicides are down 4.6 percent;
- Fungicides are up 3.1 percent;
- Soil amendments up 74.7 percent;
- Greatest interest in lawn care was found in Ohio, Indiana, Illinois, Michigan, Wisconsin;

- Predicted expenditures [1985] for chemical lawn care and landscape maintenance companies.

	% Sample Purchasing	Average Per Purchaser	Projection to LCI Readers'p	% Change since 1984
		dollars	Million dollars	
Chemicals Supplies				
Granular fert	84.7	9,755.70	92.41	+ 13.5
Pre-emerg herb	73.9	5,259.18	43.46	+ 4.6
Liquid fert	32.9	11,701.40	43.05	+ 8.6
Insecticides	75.0	3,518.92	29.51	+ 23.2
Grass seed	72.1	3,102.86	25.02	+ 53.9
Post-emerg herb	73.7	2,748.33	22.65	- 4.6
Fungicides	58.2	1,704.73	11.10	+ 3.1
Soil Amend	33.2	2,563.57	9.52	+ 74.7
Plant Grow Reg	16.6	501.03	0.93	N/A
Equipment				
Tractors	19.7	11,551.33	25.46	- 15.5
Irrigat equip	19.2	10,902.63	23.41	+194.8
Spray tanks	33.4	4,901.04	18.31	+219.5
Riding lawn mow	19.7	7,518.00	16.56	+ 30.3
Walk behind mow	46.3	2,665.86	13.80	- 17.1
Sprayers, pumps	52.1	2,350.63	13.70	+ 27.8
Spreaders	47.4	1,520.19	8.06	N/A
Tree care equip	25.5	2,888.06	8.00	+278.7
Aeration equip	22.1	2,805.37	6.93	- 1.7
String trimmers	41.3	778.47	3.60	+ 11.8

1985 Projected totals = $415.48 million + 22.45 %

From: Weeds Trees and Turf

September 1985

WEED CONTROL IS CITED NUMBER ONE

- Unsatisfactory weed control is the number one reason given for customer loss among lawn service firms with 5,000 or more accounts;
- Reason for lawn service customer loss:

Customer relocation	40.6 %
Weed control	24.8 %
Competition	16.8 %
Insect control	3.0 %
No loss	1.0 %
Other	13.8 %
	100.0 %

From: Landscape and Irrigation

August 1985

SALE OF PESTICIDES PEGGED AT 1.9 BILLION DOLLARS IN 1984

- Professional use of pesticides increased in 1984 according to manufacturers sales - up to $1.9 billion from $1.2 billion in 1981.

- Some 125 companies offer about 350 different formulations for professional use.

- Pesticides account for 60 % of dollar sales in 1984.

From: Weeds Trees and Turf

June 1985

CHEMICAL LAWN CARE EXCEEDS MECHANICAL FOR FIRST TIME

- Gross revenues for chemical lawn care exceeded those for mowing/maintenance for the first time.

- 1984 chemical lawn care gross revenue was $1,500,000 compared with $1,300,000 for mowing maintenance.

- Chemical lawn care grew at a 40 percent rate while mowing/maintenance grew at only 11 percent.

- The overall lawn care industry grew 26.6 percent in 1984.

From: Weeds Trees and Turf

November 1984

A BULL MARKET IN THE LAWN CARE INDUSTRY

- The lawn care industry continues to set records in gross sales and growth;

- Analysts don't predict a slackening until the late 80s and a leveling off early in the 21st century;

- In 1983 the lawn care industry gross sales of leading companies amounted to $2,220,000,000. This represented a 20.2 percent increase in comparison with 1982;

- Market growth should continue in the 20 to 25 percent range for the remainder of the decade;

- 90.8 percent of accounts are residential;

- About 6,400,000 home lawns were serviced in 1983;

- Overall more than 7,000,000 accounts were serviced;

- 7 out of 10 lawn care operators are involved in:

  - disease control 73.6 %
  - aeration 71.9 %
  - renovation 69.4 %

- 15 percent claim their entire business is chemical lawn care;

- 7 percent claim to be exclusively landscape management;

- Business expenses [of gross receipts]:
  29.93 percent for labor;
  15.70 percent for fertilizers and pesticides;
  7.94 percent for fuel;
  4.02 percent for advertising.

- Pretax profit was averaged at 20.53 percent;

- Pretax profit for predominantly chemical lawn care was 22.19 percent;

- Pretax profit for predominantly landscape management was 19.58 percent;

- Pretax profits for 1983 amounted to $456,300,000;

- $665,300,000 was pumped into the labor market;

- $176,500,000 was spent for fuel;

- $89,400,000 was spent for advertising;

- Most companies involved in tree and lawn care fell into a bracket of less than $25,000 gross sales per year;

- 6 percent of the 45,000,000 owner-occupied single family homes with lawns in the United States contract for professional lawn care;

- 13 percent of the homes with incomes more than $20,000 contract for professional lawn care;

- 34 percent of the lawns contracted are under 5,000 square feet;

- 54 percent are under 7,500 square feet.

From: Lawn Servicing

Spring 1984

WHAT DOES YOUR COMPETITION CHARGE ?

- The median price for an application to a residential lawn of 7,500 square feet is $36.55;
- Charges may range from a low of $10.00 to a high of $112.50;
- Prices in the northeast tend to be slightly higher than prices in the northwest;
- The median number of applications to residential customers is 4.7 compared to 4.4 to a commercial site.

From: Lawn Care Industry

June 1980

THE TOP FIFTY LAWN CARE MARKETS

- The New York Standard Metropolitan Statistial Area as 36.8 prcent owner occupied housing units [which is low] but the largest number of single family homes in the United States;
- The New York Standard Metropolitan Statistial Area had more than 1,400,000 owner occupied homes in 1970;
- The New York Standard Metropolitan Statistical Area population in 1979 was almost 12,000,000 people;
- The New York Standard Metropolitan Statistical Area per household income in 1978 was $21,461;
- Other Standard Metropolitan Statistical Areas in the top ten totals of numbers of single family homes include:

Los Angeles - Long Beach CA	1,180,000
Chicago IL	1,160,000
Philadelphia PA-NJ	993,156
Detroit MI	913,267
San Francisco - Oakland CA	560,749
Boston-Lowell-Brockton-Lawrence-Haverhill MA	532,254
Pittsburg PA	514,503
St Louis MO-IL	475,592
Dallas-Ft Worth TX	455,884

- Top Ten - Population:

New York NY	11,963,600
Los Angeles - Long Beach CA	7,197,600
Chicago IL	6,989,900
Philadelphia PA	4,741,100
Detriot MI	4,359,300
Boston-Lowell-Brockton Lawrence-Haverhill MA	3,841,800
San Francisco - Oakland CA	3,164,400
Washington DC-MD-VA	2,998,100
Dallas-Ft Worth TX	2,676,300
Houston TX	2,626,600

- Top Ten per Household Income

Honolulu HI	$ 29,985
Washington DC-MD-VA	28,872
New Brunswick-Perth Amboy-Sayreville NJ	26,971
Anaheim-Santa Ana-Garden Grove CA	26,609
Bridgeport- Stamford-Norwalk-Danbury CT	26,392
San Jose CA	25,821
Sacramento CA	25,801
Long Branch - Asbury Park NJ	25,332
Oxnard-Simi Valley-Ventura CA	24,975
Houston TX	24,573

- Cities expected to move up in single-family home rankings include:
  - St Louis MO
  - Dallas-Ft Worth TX
  - Washington DC-MD-VA
  - Houston TX
  - Minneapolis - St Paul MN
  - Baltimore MD
  - Anaheim - Santa Ana - Garden Grove CA
  - Milwaukee WI
  - Atlanta GA
  - Denver CO
  - San Diego CA
  - Phoenix AZ
  - San Jose CA
  - Louisville KY
  - Columbus OH
  - New Orleans LA
  - Hartford CT
  - Sacramento CA
  - San Antonio TX
  - Albany NY
  - Oklahoma City OK
  - Salt Lake City UT
  - Memphis TN

Better LAWN & TURF INSTITUTE

THE LAWN INSTITUTE

County Line Road
P. O. Box 108
Pleasant Hill, Tennessee 38578-0108

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Associate Editor: Beverly C Roberts, MA

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