DISCUSSION 2
Date: 3/10/99

ITEM: Information on the proposed Agricultural High School

SUBMITTED BY: Susan Hoyt, City Administrator

PRESENTER: Mr. Patrick Plonski, Executive Director, Minnesota Agricultural Leadership Council

EXPLANATION/INFORMATION:

Summary and action requested. The council will be given the opportunity to hear about the proposed Minnesota Agricultural High School, which is requesting funding for planning funds from the legislature this year. The sponsoring organization, the Minnesota Agricultural Leadership Council, is located on the St. Paul (Falcon Heights) campus. The preferred site is the Harvest States site in Falcon Heights. Questions about the school itself, its relationship to the University of Minnesota, the state funding requests, the future site and the preferred site will be covered. The information gathered from this meeting will be included in the city's next newsletter. The city has requested to be involved in the legislative process during this session.

Meets Goal 2. To maintain and promote the assets of the city's unique neighborhoods including commercial, residential and open space uses for present and future generations.

Some possible questions for the council to consider.

- What is the Minnesota Agricultural Education Leadership Council's relationship to the University of Minnesota?
- What are the school's short term and long term goals?
- What is the timeline for the school?
- What is the size of the school's student body?
- Where will the students come from?
- How will students be selected to attend?
- How do students get to school?
- Will it be a year round school?
- How many jobs will the school create?

- What are the criteria that are being used to determine the site for the school?
- What locations are being considered other than the Harvest States property?
- What arrangements are being discussed with the owners of these sites for using the facilities?
- What is the cirriculum's relationship to the University of Minnesota St. Paul campus?
- How will the school be financed?
    - What is the legislative request for 1999? 2000?
    - Where will on-going funding come from?

ATTACHMENTS:

1 Background on the Harvest States property
2 1992 Department of Revenue Report on Tax exempt property
3 Zoning code for B-3
4 Memo to Governor Ventura re: Agricultural High School
5 Report- Study of Urban Agricultural Education Efforts in Minnesota

ACTION REQUESTED:

Information from Executive Director Patrick Plonski

Questions and discussion

3 March 1999

Background on Harvest States and tax exempt property in Falcon Heights

- The Harvest States commercial office building employment varied over the decades, but has been as high as 350 employees at this key intersection in the city. This was the second highest employer in the city after the University of Minnesota.

- The Harvest States property paid total local property taxes of $86,281.66 in 1998 to all levels of government. It paid $11,738 to the city, which made up 2.5% of the city's net levy raised from city properties (not including fiscal disparities).

- The Harvest States building is the only office building in the Snelling and Larpenteur retail core.

- In 1998 Harvest States and Cenex merged. Harvest States is considering what to do with its Falcon Heights facility. One possibility is selling it or leasing it for a state agricultural high school.

- If Harvest States is leased by a non-profit use, it still pays property taxes to local government. If it is sold to a non-profit organization, it does not.

- The city has some experience with uses moving from the University of Minnesota campus to commercial property in Falcon Heights where the Minnesota Horticultural Society moved to the office building to the north of city hall. The city has no complaint about the organization. To date, it has not created any land use issues in the city. It is useful to note that this office building was financed with tax increment financing bonds with the idea that it would enhance the city's tax base and create jobs.

- The city has 66% of its geographic area in tax exempt uses. It has 46.83% of its market value in tax exempt property (the market value placed on the Fair and the U of M buildings.) The average tax exempt market value is 17.28%. This makes the city the 88th highest city with land in tax exempt property. There are 851 cities. Minneapolis and St. Paul have slightly more than 21% of their market values in tax exempt property. (See attachment from Department of Revenue)

- The B-3 community business district is zoned to accommodate neighborhood retail businesses serving the immediate area. The zoning code does not include a school as a permitted or conditional use in the B-3 zone. The school use would require a zoning change. If an amendment to the zoning code to permit a high school as a conditional use in the B-3 district. If approved by the city council, the city could attach conditions governing the use of the site for the school.

1992 Dept. of Revenue Report on Tax Exempt Prop

(98 report forthcoming)

& 51 cities

		92 exempt mv	92 taxable mv	
1	NORTHOME	6,580,340	2,206,029	74.89%
2	OGILVIE	12,908,600	4,647,147	73.53%
3	MEADOWLANDS	2,455,700	900,531	73.17%
4	GOODRIDGE	2,064,100	811,069	71.79%
5	LAPORTE	4,377,100	1,755,564	71.37%
6	BIGFORK	12,908,272	5,308,510	70.86%
7	CASS LAKE	15,906,000	7,669,820	67.47%
8	SOLWAY	2,199,200	1,140,770	65.84%
9	HOLDINGFORD	16,533,300	8,620,457	65.73%
10	MCGREGOR	8,778,000	4,690,863	65.17%
11	BOVEY	11,117,430	6,172,815	64.30%
12	BARNUM	8,098,400	4,794,910	62.81%
13	SANDSTONE	28,238,800	16,839,119	62.64%
14	APPLETON	29,997,700	18,946,507	61.29%
15	REMER	7,634,500	4,859,085	61.11%
16	DEER RIVER	17,207,000	10,958,568	61.09%
17	GRANADA	3,646,700	2,326,194	61.05%
18	KELLIHER	5,086,300	3,372,004	60.13%
19	ONAMIA	12,007,400	8,011,787	59.98%
20	CLEARBROOK	8,290,900	5,613,384	59.63%
21	PINE RIVER	20,799,800	14,205,727	59.42%
22	TWIN VALLEY	11,603,800	8,202,023	58.59%
23	MCGRATH	951,700	678,023	58.40%
24	LAKE HENRY	1,613,300	1,155,530	58.27%
25	BORUP	1,519,300	1,089,110	58.25%
26	WALDORF	5,109,200	3,664,350	58.23%
27	CARLTON	16,438,400	11,838,741	58.13%
28	CROSBY	41,377,900	30,393,363	57.65%
29	SILVER BAY	41,664,800	32,513,215	56.17%
30	NASHWAUK	9,976,400	7,799,258	56.12%
31	PALISADE	2,011,600	1,583,540	55.95%
32	IVANHOE	11,372,600	9,058,014	55.66%
33	CEYLON	4,032,800	3,365,471	54.51%
34	SPRING HILL	1,548,100	1,295,393	54.44%
35	KIMBALL PRAIRIE	11,861,900	9,944,356	54.40%
36	ELY	56,106,500	47,207,646	54.31%
37	PARKERS PRAIRIE	12,368,100	10,654,576	53.72%
38	WOODSTOCK	1,663,200	1,446,983	53.48%
39	OKABENA	2,752,000	2,402,977	53.39%
40	TINTAH	989,200	866,890	53.29%
41	RED LAKE FALLS	17,579,700	15,523,937	53.11%
42	MAZEPPA	12,731,700	11,244,422	53.10%
43	SEBEKA	8,114,700	7,182,339	53.05%
44	FLOODWOOD	6,204,600	5,621,276	52.47%
45	PLUMMER	4,277,200	3,957,346	51.94%
46	UNDERWOOD	4,131,300	3,838,343	51.84%
47	RUTHTON	3,520,400	3,281,810	51.75%
48	OSLO	5,735,400	5,413,418	51.44%
49	ST PETER	137,113,200	129,560,275	51.42%
50	MIDDLE RIVER	2,937,400	2,786,062	51.32%
51	WILLOW RIVER	4,950,000	4,695,004	51.32%
52	HENDRUM	3,082,100	2,934,567	51.23%

53	AITKIN	33,083,100	31,849,010	50.95%
54	GARY	2,179,100	2,100,158	50.92%
55	BEMIDJI	192,839,400	186,963,804	50.77%
56	BAGLEY	16,445,800	16,171,789	50.42%
57	LITTLEFORK	6,279,200	6,175,297	50.42%
58	SQUAW LAKE	1,369,000	1,348,055	50.39%
59	BRUNO	1,231,600	1,214,646	50.35%
60	TRUMAN	18,052,500	17,876,325	50.25%
61	GRACEVILLE	6,994,100	6,934,849	50.21%
62	OKLEE	5,365,400	5,378,023	49.94%
63	NEW RICHLAND	16,520,900	16,606,283	49.87%
64	FREEBORN	4,370,500	4,403,765	49.81%
65	COMFREY	4,694,100	4,734,021	49.79%
66	ALVARADO	4,282,400	4,335,573	49.69%
67	TOWER	6,254,700	6,371,738	49.54%
68	HERMAN	5,936,100	6,088,177	49.38%
69	MOOSE LAKE	19,656,700	20,252,005	49.25%
70	AKELEY	5,225,000	5,431,293	49.03%
71	ST JOSEPH	37,219,900	39,445,452	48.55%
72	BAUDETTE	16,005,600	17,000,314	48.49%
73	HILLTOP	10,985,100	11,708,676	48.41%
74	STAPLES	28,309,900	30,236,777	48.35%
75	MAHNOMEN	15,174,900	16,297,381	48.22%
76	BELLINGHAM	2,171,100	2,344,047	48.08%
77	HALSTAD	8,025,000	8,698,745	47.99%
78	MORRIS	69,483,400	75,482,195	47.93%
79	KENSINGTON	2,684,200	2,949,041	47.65%
80	ASHBY	5,044,700	5,545,440	47.64%
81	ELBOW LAKE	15,864,100	17,653,510	47.33%
82	BELVIEW	3,714,200	4,151,968	47.22%
83	ST LEO	1,060,300	1,190,946	47.10%
84	NEVIS	5,683,900	6,386,547	47.09%
85	ELLSWORTH	4,915,400	5,539,957	47.01%
86	CHISHOLM	56,876,800	64,346,159	46.92%
87	DENT	1,812,600	2,055,035	46.87%
88	FALCON HEIGHTS	147,400,800	167,366,647	46.83%
89	GONVICK	2,619,300	2,978,016	46.80%
90	MAYNARD	3,922,400	4,572,889	46.17%
91	BEAVER CREEK	1,939,900	2,263,298	46.15%
92	CAMBRIDGE	101,871,500	120,213,392	45.87%
93	AMBOY	6,021,800	7,160,652	45.68%
94	WRENSHALL	4,747,400	5,645,589	45.68%
95	BEARDSLEY	2,181,900	2,595,793	45.67%
96	CROOKSTON	99,444,900	118,711,244	45.58%
97	MORGAN	9,334,500	11,275,483	45.29%
98	PIPESTONE	58,533,600	71,056,515	45.17%
99	GRYGLA	1,949,000	2,369,749	45.13%
100	FRAZEE	11,060,100	13,484,863	45.06%
438	MINNEAPOLIS	3,815,965,137	13,716,761,225	21.76%
446	ST PAUL	2,101,127,900	7,674,930,815	21.49%
	All cities	23,938,631,735	114,593,101,138	17.28%

PART 10. "B-3" SNELLING AND LARPENTEUR COMMUNITY BUSINESS DISTRICT

9-10.01 "B-3", Snelling and Larpenteur COMMUNITY Business District

Subdivision 1. Purpose and Intent.

The district applies only to the four quadrants of the Larpenteur and Snelling intersection. The district is designed to provide retail sales and services that only serve the surrounding neighborhoods' and community's needs. Retail sales and services that serve a larger geographic area are available in larger, nearby business districts in adjacent cities. By limited and controlling the uses that are permitted, the district is designed to be accessible to retail customers from the nearby neighborhoods and the community, to be compatible with the character of the neighborhoods and overall community, and to minimize the blighting influence on the surrounding residential neighborhoods.

Furthermore, the district provides for and encourages compact centers for retail sales and services by grouping businesses into patterns of workable relationships that complement each other. The district is designed to be easily accessible to users. It excludes highway oriented and other high traffic volume businesses that would tend to disrupt the cohesiveness of the shopping center or its circulation patterns and shared parking arrangements.

Subdivision 2. Permitted Uses. No structure or land shall be used except for the following uses (SIC = Standard Industrial Classifications from the Office of Management and Budget, SIC Manual, 1987):

a. Auto parts and accessory stores.

b. Apparel and accessory stores (SIC 56).

c. Beauty and barbershops (SIC 723 & 724).

d. Bowling alley

e. Coin and philatelic (stamp) store.

f. Computer programming and data processing services (SIC 737).

g. Eating establishments (SIC 5812).

h. Financial institutions and insurance establishments with hours open to the public no earlier than 8 a.m. and no later than 6 p.m. An automatic teller machine may operate 24 hours a day.

i. Food stores (SIC 54) excluding the outdoor sales of produce, meat and seafood.

j. Hardware stores (SIC 5251).

k. Home furnishing, appliance and equipment stores (SIC 57).

l. Laundry, laundromat and dry cleaning establishments (SIC 7212, 7215 and 7219).

m. Mailing, reproduction, commercial art, photography and stenographic services (SIC 733).

n. Medical and dental offices and clinics (SIC 801-804).

o. Miscellaneous retail establishments (SIC 59) including antique stores but excluding fuel dealers (SIC 598) and gun shops.

p. Motion picture theaters (SIC 7832).

q. Offices, business and professional.

r. Office supply and art supply stores, retail.

s. Paint and wallpaper stores, retail (SIC 523).

t. Personal service establishments as follows: tax return preparation services, diet centers, costume and dress suit rental stores, photography services.

u. Physical fitness facilities.

v. Precious metal dealer with a precious metal dealer license.

w. Printing and duplicating shops provided not more than six employees are employed on the premises at one time (SIC 7334).

x. Public and essential service uses.

y. Schools and studios for art, photography (SIC 722),

dance (SIC 791), music and interior design.

z. Therapeutic massage enterprise (see 5-3.08 for license).

z1. Video rental stores (SIC 784).

Subdivision 3. Conditional Uses. The following uses are permitted subject to the issuance of a C.U.P.

a. Animal grooming and pet stores provided there shall be no boarding of animals on the site.

b. Bank drive-in facilities as an accessory use to a financial institution with hours open to the public as identified in the conditional use permit.

c. Basement storage of goods not sold on the premises provided that the space is completely finished and ready for use, is sprinklered, has elevator access, provides two pedestrian accesses, has an existing loading dock or area that does not conflict with adjacent residential areas or entry to businesses and is approved by the city fire marshal.

d. Car washes which are accessory to the principal use and meet the requirements for service stations, Section 9-14.01, Subdivision 17.

e. Child care and nursery school facilities subject to licensing by the State of Minnesota.

f. Charitable gambling establishments as a principal use in accordance with the city's licensing requirements, Chapter 5, Section 3 of the city code.

g. Custom manufacturing of handmade goods that are sold on the premises provided the manufacturing operation is incidental to a retail operation.

h. Drinking establishments, bars and taverns (SIC 5813) subject to the city's licensing requirements, Chapter 5, Section 3 of the city code.

i. Gun shops are a conditional use on the northwest corner of Snelling and Larpenteur as long as the following conditions exist:

1) A minimum of 1,000 from any residential zone except for a minimum of 150 feet from any residential zone when the residential zone is buffered by a separate commercial facility.

2) A minimum of 750 feet from any park.

3) A minimum of 1,000 feet from any public or private preschool, elementary or secondary school or church.

4) The firearms dealers security standards as mandated by Minnesota Statute 624.7161 and 624.7162 are met.

j. Hotels and motels by P.U.D. (SIC 701).

k. Motor fuel or service stations subject to thedesign and performance standards as specified in Section 9-14.01, Subdivision 17 of this code.

l. Multi-family housing by Planned Unit Development.

m. Satellite communications dishes as an accessory use.

n. Second hand goods store, as defined in the zoning code.

o. Veterinary clinics with no boarding of animals on the site and no external runs.

Subdivision 4. Permitted Accessory Uses.

a. Any accessory use permitted in Chapter 9, Section 8.01.

b. Limited repair and service operations which are incidental to a principal use.

c. One pool table per 2,000 square feet of area excluding area devoted to bowling lanes and one video or electronic game per 300 square feet of area excluding area devoted to bowling lanes are permitted accessory uses to a bowling alley.

d. The limited sale of used merchandise is allowed as an accessory use, but only if the following conditions are met:

(i) The sale of used merchandise must be clearly incidental to the sale of new merchandise of the same general type.
(ii) The used merchandise which is sold on the premises must be acquired by the owner of the principal use only on a "trade-in" basis from customers trading in used merchandise at the time they purchase new merchandise of the same general

Moving Agricultural Education into the 21st Century.

Minnesota Agricultural Education Leadership Council

1954 Buford Ave., Room 320. St. Paul, MN 55108-6197 (612)624-6253 fax:(612) 625-2798

Memorandum

To: Governor Jesse Ventura
Lieutenant Governor Mae Schunk
Tim Penny, Advisor – Office of the Governor
Wendy Wustenberg, Governmental Relations Director – Office of the Governor

From: Patrick J. Plonski, Executive Director
Minnesota Agricultural Education Leadership Council (MAELC)

Date: January 6, 1999

Re: Agriculture Issues Group Meeting

Thank you for the opportunity to discuss issues of importance to Minnesota Agriculture. Your interest in agricultural public policy issues is greatly appreciated. MAELC is dedicated to improving Minnesota programs for agricultural education and promoting the importance of agricultural education at all levels – in schools, universities, and among the general public. For your reference, I am enclosing a listing of initiatives that MAELC has identified for possible inclusion in its 1999 Legislative Package for the improvement of agricultural education. These initiatives will be further refined and prioritized in the next two weeks by the MAELC Council.

Key issues that MAELC will be promoting include the following:

1) **The Creation of an Urban Agricultural High School in the Inner City Core of St. Paul** – This concept has won extensive support from agri-business, farmers, educators, and officials at the University of Minnesota and the Minnesota Dept. of Children, Families and Learning. The goal is to establish a grade 9-12 high school located adjacent to the Minnesota State Fairgrounds and the University of Minnesota agricultural campus in St. Paul. Roughly 400 students would participate in a rigorous academic program focusing on agriculture with the twin goals being to increase the level of agricultural literacy and also to train inner city youth for careers in agriculture. Schools of this nature have been very successful across the U.S., and Minnesota as the #2 agri-business state in the nation is a natural setting for such a school.

2) Address the Shortage of Agricultural Education Teachers in Minnesota High Schools and the Shortage of Well-Trained Workers in Technical Agricultural Career Areas-
We in Minnesota are faced with an interesting dilemma: We have a shortage of well-trained workers in agricultural fields, and simultaneously we have a shortage of high school teachers needed to train the very workers that we need. We need to boost enrollment in agricultural education programs at the University of Minnesota to help solve both of these problems. MAELC has identified a number of initiatives for addressing these concerns in the agricultural sector.

3) Increased Base-Level Funding for the Minnesota Ag in the Classroom Program-
As fewer and fewer Minnesotans have the opportunity to grow up on farms and have direct, first-hand knowledge of agricultural production and processing, programs such as the Ag in the Classroom Program are even more important. It is vitally important that the citizens of the State of Minnesota-a great agriculture state-know where their food comes from, and know the importance of agriculture to the Minnesota economy. The Ag in the Classroom Program located in the Minnesota Department of Agriculture is the premier delivery system in Minnesota schools for information about agriculture (with the exception of those students who have the opportunity to enroll in technical agricultural programs). This Program has been run on a shoestring for over a decade, and funding for this program is largely through the private sector. A relatively small increase in base-level funding for this program would give a great deal of "bang for the buck" in terms of increasing agricultural literacy and awareness in Minnesota.

Governor Ventura, Lieutenant Governor Schunk, and members of the Ventura Administration, I thank you for the opportunity to present these public policy initiatives on behalf of the Minnesota Agricultural Education Leadership Council (MAELC). I stand ready to provide additional information regarding these initiatives and how best we can improve agricultural education programs in Minnesota, and increase the knowledge about Minnesota agriculture.

5F

Moving Agricultural Education into the 21st Century.

Minnesota Agricultural Education Leadership Council

1954 Buford Ave., Room 320, St. Paul, MN 55108-6197 (612)624-6253 fax:(612) 625-2798

JAN 1 ? 1999

January 12, 1999

Susan Hoit, City Manager
City of Falcon Heights
2077 West Larpenteur Ave.
Falcon Heights, MN 55113

Dear Ms. Hoit,

Thank you for taking the time to visit with me recently regarding a proposal being advanced by the Minnesota Agricultural Education Leadership Council (MAELC) for the creation of an urban agricultural high school in proximity to the University of Minnesota St. Paul campus and the State of Minnesota Fairgrounds. I appreciate your interest in this important issue and recognize that issues regarding tax base should property be taken off the tax rolls are of legitimate concern to the City of Falcon Heights.

As I related to you during several of our discussions, MAELC does want to work with the City of Falcon Heights regarding this matter and we view your concerns regarding loss of tax base as legitimate. As we move forward with proposals for the establishment of an urban agricultural high school, I am hopeful that we will be able to consider the inclusion of mechanisms that would hold the City harmless as regards tax revenues.

As per your request, I am enclosing for your reference a number of documents regarding urban agricultural education in general, and the urban agricultural high school in specific. As I noted to you, we are still in the planning stage and will be seeking planning funding from the Minnesota Legislature during this legislative session to answer more questions regarding how a school of this nature would be established and where it would best be located. We do not yet have a site identified for this school and that is part of the reason we will be seeking planning dollars from the Legislature – to further refine this concept and establish a plan of action. I stand ready to

work with you and the City of Falcon Heights Council as we undertake this planning process.

Thank you once again for your interest regarding this important matter. Please do not hesitate to write or call at any time in the future regarding this matter. My direct phone number is 612-624-6249.

Sincerely,

Patrick Plonski
Executive Director

Encl.

DRAFT

Study of Urban Agricultural Education Efforts in Minnesota

Executive Summary

Minnesota Agricultural Education Leadership Council (MAELC)

Minnesota Department of Children, Families and Learning (CFL)

College of Agricultural, Food, and Environmental Sciences (COAFES),
University of Minnesota

Visions for Change Project,
University of Minnesota

December 1998

Contents

Steering Committee Members

Kai Bjerkness
Agricultural Utilization Research Institute

Vernon Cardwell
Dept. of Agronomy & Plant Genetics
University of Minnesota

Jeremy Daberkow
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Jack Gerten
St. Paul Farmers Market/
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Tom Gilsenan
PYC Alternative High School

Paul Hansen
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Minneapolis South High School

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School for Environmental Study, Apple Valley

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State Senator, Brooklyn Park

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Montevideo High School

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Warren Sifferath
Minnesota Extension Service, Dakota County

Steve Trimble
State Representative, St. Paul

Al Withers
Minnesota Ag in the Classroom
Minnesota Department of Agriculture

David Zander
Council on Asian-Pacific Minnesotans

❖ Background to the Study

Over the past few years, interest in agricultural education within urban contexts has grown steadily in Minnesota. Schools within the seven-county metropolitan area have begun to explore the possibilities for adding agricultural offerings to their curricula, and faculty from the University of Minnesota have participated in the annual Forums on Education in Agriculture in Urban Schools sponsored by ASSIST, a Des Moines, Iowa organization that consults on the development of urban agricultural education programs.

With the founding of the Minnesota Agricultural Education Leadership Council (MAELC) by the 1997 Minnesota Legislature, urban agricultural education has found a new impetus. MAELC sees urban students as a key constituency in their efforts to revitalize and expand agricultural education programs *statewide.* In May of 1998, MAELC voted to launch this Study of Urban Agricultural Education Efforts in Minnesota. MAELC has conducted this study in conjunction with the Minnesota Department of Children, Families and Learning (CFL) and the University of Minnesota College of Agricultural, Food, and Environmental Sciences (COAFES), with additional assistance from the Visions for Change Project at the University of Minnesota. A Steering Committee comprised of a cross section of educators, agribusiness representatives, legislators, farmers, and community leaders has also provided direction for the Study and substantial input on the recommendations contained herein.

This Study represents the first major effort to determine the current status of food, fiber and natural resources education programs in Minnesota's urban areas. Certain major assumptions underpin the work of this Study:

- Currently, there exists a shortage both of qualified teachers of agricultural education at the middle school and secondary levels and of personnel trained in technical agriculture and management skills to fill employment openings in many major agribusinesses.

- If students are not exposed to agriculture in classes at the secondary level or before, the likelihood that they will pursue baccalaureate education in agriculture and careers in agricultural fields decreases dramatically.

- Very few students within the seven-county metropolitan area in Minnesota have the opportunity to study agriculture at the secondary level or before.

With these assumptions forming the background, MAELC presents this Study in an attempt to describe current and future needs for students with agricultural knowledge and training and to provide detailed recommendations for making agricultural education available to substantially larger numbers of students within Minnesota's major urban core.

❖ Purposes of the Study

MAELC, CFL, and COAFES designed this Study with several major aims in mind. These included:

- To establish a baseline of information on the **status/condition** of food, fiber and natural resources education in Minnesota's urban areas.

- To identify **stakeholders and resources** currently available to food, fiber and natural resources education in urban areas.

- To develop a plan to address agricultural literacy, career awareness, and career preparation opportunities for all learners, including short, intermediate, and long term goals and policy **recommendations**. This plan shall address:
  - Delivery systems;
  - Community awareness;
  - Training and professional development for educators;
  - Curriculum development, graduation standards, and post-secondary

standards.

❖ Procedures for the Study

With these aims in mind, several specific study components were devised. These included:

- Collecting demographics of urban learners in Minnesota.

- Surveying current food, fiber and natural resource education programs and efforts in urban K-12 schools, post-secondary programs, and community-based organizations.

- Surveying current and projected future career opportunities in the food, fiber and natural resources industries in Minnesota.

- Conducting focus group panels comprised of leaders from various ethnic communities and from the agribusiness sector, and conducting interviews with key leaders in communities, education, and agriculture.

- Gathering information on urban agricultural education efforts elsewhere in the United States and internationally.

Various researchers took on these components and worked between July and November of 1998 to gather data. The Minnesota Department of Children, Families and Learning provided demographic data, and the Minnesota Department of Trade and Economic Development supplied much of the data on employment trends in the agricultural sector.

Roland Peterson, Head of the Division of Agricultural, Food and Environmental Education at the University of Minnesota, coordinated efforts to contact every secondary and post-secondary school in the seven-county metropolitan area to ascertain the numbers of students participating in agriculture programs. Dr. Peterson also directed researchers to assess

programs and efforts conducted by the Minnesota Extension Service and various community organizations and environmental learning centers throughout the metro area.

Patrick Plonski, Executive Director of MAELC, conducted interviews with agribusiness leaders to assess their need for agriculturally-trained employees. The Visions for Change Project at the University of Minnesota conducted focus groups with a number of ethnic community leaders to gain their input on what shape they would like to see urban agricultural education take in Minnesota.

Other researchers gathered data on the organization and curriculum offerings at urban agricultural schools elsewhere in the United States and internationally, as well as on informal and historical efforts to promote agricultural awareness and training opportunities in urban areas throughout Minnesota, the United States, and the world.

On the basis of the data gathered by the team of researchers, a list of recommendations for improving urban agricultural education in Minnesota was developed. The Study's Steering Committee reviewed and revised that list prior to its inclusion in this report.

In addition, Vernon Cardwell, professor of Agronomy and Plant Genetics at the University of Minnesota, has developed an instrument to assess the agricultural literacy of learners at the 4th grade, 8th grade, 12th grade, and adult levels. Dr. Cardwell has submitted this instrument to selected teachers for their input on the difficulty and age-appropriateness of the questions. The Minnesota Department of Children, Families and Learning plans to administer this questionnaire in a stratified sample of rural and urban schools early in 1999, and MAELC, CFL, and COAFES will recommend that an ongoing assessment of learner literacy be conducted as part of the effort to improve agricultural education opportunities for students across the state.

❖ Results

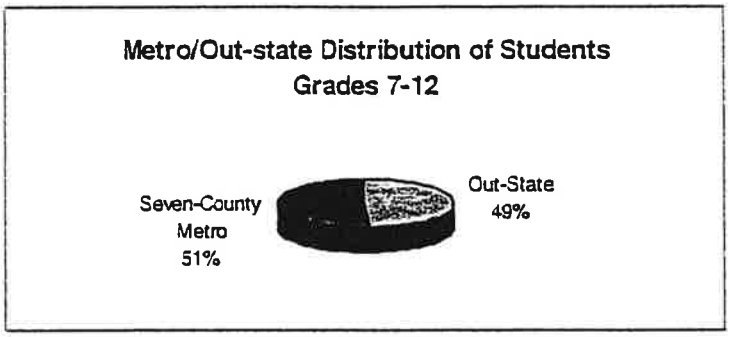
Demographics of Urban Learners

The compilation of demographic data on students in grades 7 through 12 across Minnesota yielded three extremely significant findings for this Study.

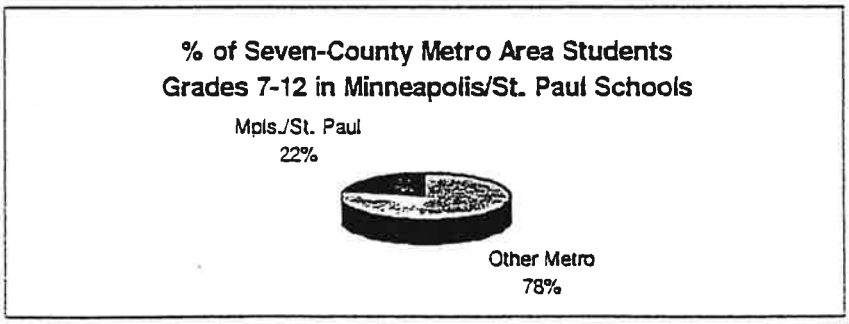
- The **seven-county metropolitan area contains over one-half** of the state's students in grades 7 through 12.

- **Minneapolis and St. Paul represent the state's two largest school districts.**

- A breakdown of metropolitan students by ethnic background shows an increasingly diverse student body, especially in Minneapolis and St. Paul, where there are **currently more minority than Caucasian students.**

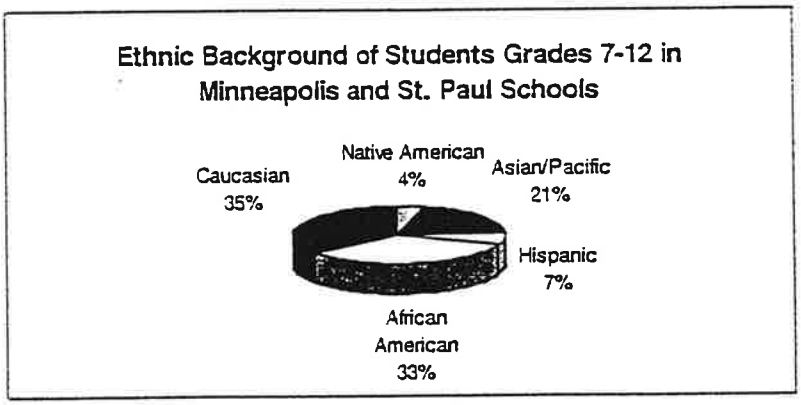


Of the total number (844,016) of students in grades 7 through 12 statewide, 430,293 (51%) reside within the seven-county metropolitan area. Of metro area students, 93,313 (22%) attend schools in the Minneapolis and St. Paul districts.



These statistics reflect the overall trend in population in Minnesota from rural to urban over the last fifty years. The steady decline of the rural population base, especially among farmers, demonstrates the need for the agricultural sector, as well as agricultural education, to begin to draw employees and educators from our state's urban areas.

As the 21st century approaches, agricultural businesses and educators will also have to attract and draw from an increasingly ethnically diverse population base. Statewide, minorities represent 14% of the total population of students grades 7 through 12. In the seven-county metropolitan area, that percentage increase to 22%. In the Minneapolis and St. Paul school districts, minorities comprise 64% of the grades 7 through 12 student base.



These statistics also reflect an overall trend in Minnesota's population as a whole, and particularly in urban areas. Recent estimates, for example, show that the Hmong population in St. Paul alone has grown from 16,000 in 1990 to as much as 60,000 today, and other significant immigrations from countries such as Somalia continue to increase the proportion of ethnic minorities in many Minnesota cities. **Clearly, urban agricultural education efforts will have address the specific concerns and needs of many ethnic communities.** This may include paying special attention to the attitudes of various minority groups toward agriculture, as, for example, with African Americans, who often hold negative views of agriculture due to its connection with slavery.

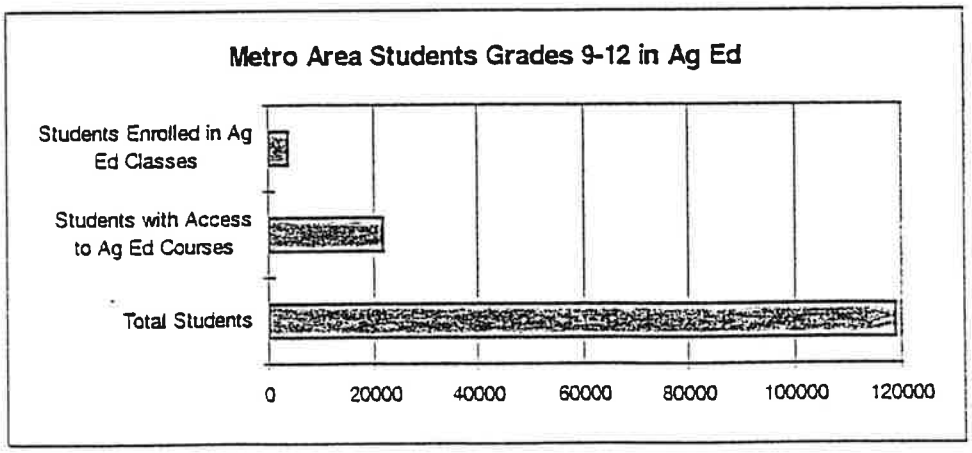
The collection of demographic data from urban Minnesota schools yielded another compelling finding: **Within the Minneapolis and St. Paul school districts, only 4% of**

the teachers come from minority ethnic groups, as compared to 64% of the student population. This low percentage has resulted at least partially from the rules of tenure, under which the last teachers hired are the first laid off when cuts need to be made. Many recent gains in minority teacher employment have been mitigated by the effects of this system. However, recruitment of ethnic minorities into agricultural teacher training programs would still seem to represent an important way to increase minority involvement in and ownership of urban agricultural education programs.

Current Food, Fiber and Natural Resource Education Efforts in Urban K-12 Schools and Post-Secondary Programs

This Study had as one of its major goals a survey of the current status of food, fiber and natural resource education efforts in the seven-county metropolitan area. To create this picture, researchers contacted numerous secondary and post-secondary schools, as well as Minnesota Extension Service offices, nature centers, and community organizations.

One of the most significant findings from this component of the Study is that **only about 3% of students in grades 9 through 12 in the seven-county metropolitan area are enrolled in agricultural education courses** (3,701 students of a total of 118,891). Only 18% of metro area students (21,754, distributed among 17 schools) even have access to such courses through a formal agricultural education program in their secondary school.



Within the metro area, certain technical colleges also enroll a number of high school seniors in agricultural courses. Our research found that 163 students are currently enrolled in an agriculture or horticulture course at Dakota County Technical College, North Hennepin Technical College, or Ramsey County's Northeast Metro Technical College.

Significantly, however, **no high schools in the Minneapolis or St. Paul school districts offer agricultural education courses to their students,** nor does Minneapolis Community and Technical College or St. Paul Technical College offer any courses in an agricultural discipline. Minneapolis and St. Paul's 14 public high schools currently comprise a total of 18,399 students. Clearly, **a large number of students in Minnesota's urban core lack the opportunity to study and explore agriculture during their secondary school years.**

The picture improves somewhat when programs offered outside of the school system are taken into consideration. In Hennepin County alone, the Minnesota Extension Services reaches 13,180 students in grades K through 12 annually with programs related to agriculture, while Scott County reaches another 1,500. Another arm of the University of Minnesota, the Minnesota Landscape Arboretum in Chanhassen, serves 30,000 students in grades K through 6 each year with programs that teach plant identification and growth, as well as home plant care. Each year the University's Division of Agricultural, Food and Environmental Education also provides on-campus learning opportunities for 200 students from the Chiron Middle School in Minneapolis. Student teachers mentor the middle school students through a science curriculum that uses agriculture as its basis, with faculty providing additional support.

A number of nature centers in the seven-county metropolitan area also offer educational programs for students in various grade levels. Among the most significant of these efforts are:

Dodge Nature Center (St. Paul)	35,000 students per year	Grades K-8
Eastman Nature Center (Elm Creek)	18,216 students per year	Grades K-12

Maplewood Nature Center (Maplewood)	5,470 students per year	Grades K-8

In addition, a wide variety of community-based programs provide some form of agricultural, horticultural, or environmental education experience to students in grades K-12. These include:

- **Farms,** such as Red Cardinal Farm in Stillwater, the historical Gibbs Farm Museum run by the Ramsey County Historical Society, and the Harvest Moon Community Farm, which expose students to agriculture through demonstration and participation. Harvest Moon Community Farm, for example, allows youth to plant, care for, harvest, and market garden items throughout the year.

- The **Lyndale Youth, Farm and Market Project,** which uses land in the community to grow, process, and market garden products; **Kids, Environment, and You,** which teaches students about planting flowers and conducts planting projects in public locations such as Nicollet Mall, Peavey Plaza, and the State Capitol; and the **J.D. Rivers Outdoor Discovery Center,** which offers after-school, summer, and day camp programs in horticulture.

- The **Midwest Food Connection,** which visits students in grades K through 5 in metro schools, teaching nutrition, sustainable agriculture, and organic farming. This organization also takes students on farm tours.

- The **Minneapolis Grain Exchange,** which provides tours, historical information, and information about trading.

These programs reach a combined total of 21,250 students per year, and demonstrate that a **broad spectrum of community and other organizations are making efforts to provide education in or about agriculture, horticulture, or the environment to metro area students.** While this represents a positive trend, certain realities mitigate these findings. Most notably, very few of these programs include an assessment piece to help determine

their actual impact on learners. In addition, questions must be raised about the extent to which these activities, which often consist of one-day field trips, are bolstered, contextualized, or furthered by other activities in the classroom or are integrated with other facets of the curriculum. **A stronger interface between programs offered outside of schools and the curriculum taught within schools might increase the impact of these valuable educational opportunities in providing a systemic education about natural and managed resources.**

Students throughout the seven-county metropolitan area have also been reached by the educational programs of Minnesota Agriculture in the Classroom (M-AITC), which is administered by the Minnesota Department of Agriculture and provides materials to help K-12 teachers bring agriculture into their curricula and boost students' agricultural literacy. **M-AITC ranks in the top five Ag in the Classroom programs nationwide,** and boasts an impressive list of private contributors that allows them to develop numerous programs with a minimal use of state funds. While M-AITC does not have statistics to indicate the specific number of students in metro area schools reached by their programs, they do know that **several metro area schools take advantage of the materials M-AITC produces,** including:

- The Minnesota *Ag Mag,* an educational publication geared toward students in grades 4 through 6, especially those following a Minnesota Studies curriculum. The three issues published each year are sent to 1,110 teachers or school contacts, with a total potential impact statewide of 80,000 students reached.

- Twelve Performance Packages using agricultural projects and activities to meet various K-12 graduation standards.

- The Food for Thought Mapping Project, a geography curriculum that is reaching some 12,000 students in its first few months of availability.

- Two videos, *Time Travels* and *Tech Watch*, which focus on the history of Minnesota agricultural and careers in agricultural sciences.

M-AITC helps coordinate presentations in metro schools by out-state farmers, with 500 presentations having taken place during the 1997-98 National Farm-City and Ag Days. Teachers may also apply for "mini-grants" to assist them in incorporating agriculture into their curriculum, and during the 1997-98 school year 20 metro schools received such grants. Each year, M-AITC reaches an increasing number of teachers and students with its many agricultural literacy efforts. In short, **Minnesota Agriculture in the Classroom represents another positive example of agricultural education at work in Minnesota, and any and all possible ways to capitalize on or expand these efforts should be explored.**

Clearly, individuals and organizations throughout the seven-county metropolitan area have a keen interest in providing learning opportunities for students in agriculture, horticulture and the environment, even though the number of students reached by formal agricultural education programs remains small. **All of these efforts should be considered and included in a comprehensive plan to increase the agricultural literacy of Minnesota's urban students.**

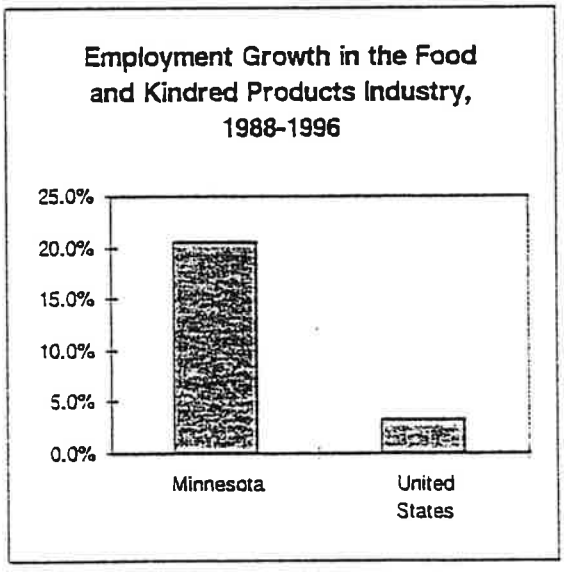
Current and Expected Future Career Opportunities in Food, Fiber and Natural Resource Industries in Minnesota

MAELC, CFL and COAFES' interest in urban agricultural education stems in part from ongoing concerns about labor shortages in agricultural education and agricultural industry statewide. As a result, one aspect of this Study aimed to focus on current trends in agricultural employment and projections for future demand for high school and college graduates with a knowledge of agriculture.

The Minnesota Legislature has already made some efforts to respond to the concern of professional teachers of agricultural education at the middle and high school levels in Minnesota that the University of Minnesota's agricultural education program has, for many

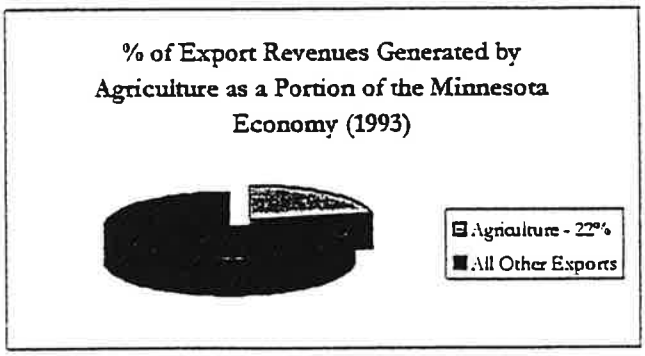
years, not been able to produce enough licensed graduates to fill the many openings for ag teachers statewide. The shortage of teachers provided the main impetus for the creation of the Minnesota Agricultural Education Leadership Council (MAELC). For the past few years, there have been at least three job openings in teaching for every graduate of the University's Agricultural Education program. As more schools across the state attempt to implement agriculture programs, and as all schools continue to face the need to replace retiring and exiting teachers, it has been projected that as many as **forty new teachers of agricultural education could be needed in Minnesota each year after 2000.** Since many students in the Agricultural Education program at the University cite a strong ag program or an inspiring ag teacher in their high school as the reason they decided to enter the field, **high school agriculture programs clearly need continued and expanded support in order to steer more students into the teaching profession.**

High school agricultural education teachers can also have a lot to do with students' choices to pursue non-teaching careers in agricultural industries, where businesses also seem to be facing a shortage of qualified candidates to fill their job openings. **During the 1990s, employment in Minnesota's food and kindred products industry (which includes all major agricultural processing firms) has grown at a rate that's more than three times the national average,** resulting in a higher-than-ever demand for well-trained agricultural sector employees.



Obviously, the agricultural sector is not alone in the tight labor market of today. With unemployment currently at a record-low 2.2% in Minnesota, many industries face stiff competition for qualified job candidates. And the agricultural sector – one of the largest and most important parts of Minnesota's economy – must compete with other sectors for employees. This underscores the need for students to have the opportunity to experience some form of agricultural education and to explore careers in agricultural fields, so that the agricultural sector does not suffer disproportionately in the competition for employees.

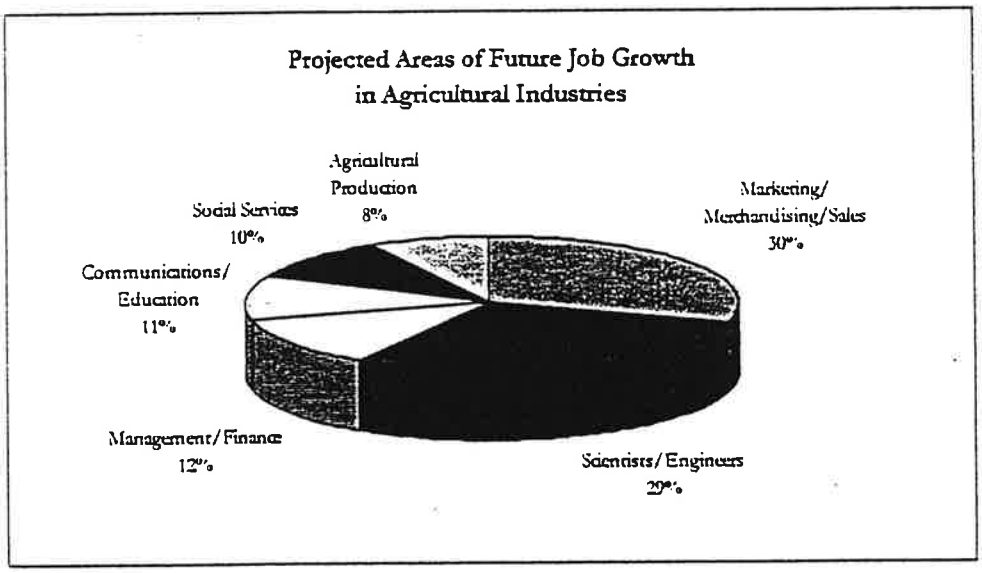
Many different statistics illustrate the importance of agriculture to the Minnesota economy. **When measured in terms of export dollars, agriculture is Minnesota's second-largest industry, accounting for 22% of export income and ranking only behind high tech manufacturing.** When measured in terms of overall manufacturing value added, agriculture accounts for 14% of Minnesota's total. **Minnesota-based agricultural processing firms General Mills and Hormel Foods Corporation are among the Fortune 500 public companies, while Cargill ranked first in annual revenues in the Forbes Private 500 rating in 1995.** Finally, when agricultural activities ranging from production, processing, and marketing to research are combined, estimates indicate that as many as **440,000 Minnesotans hold jobs related to agriculture.**



Clearly, the nature of these agricultural jobs has changed over the past few decades, and it will continue to change as we enter the 21st century. Currently, only 2% of the entire United States labor force works in traditional farming, whereas 21 million Americans hold employment in the agricultural sector. Processing, marketing, distribution, and research

account for far more agricultural jobs than production, and experts predict this trend to continue – perhaps even to intensify.

A recent Purdue University School of Agriculture study calculated that 47,918 new jobs will open up in the agricultural sector nationwide for each of the next three years. At the same time, only 45,675 qualified students are expected to graduate college during each of those years, resulting in an annual shortfall of 4.7%. The same study also included projections about the types of jobs that are expected to comprise the bulk of that 47,918. **Marketing, merchandising, and sales positions top this list, followed closely by a demand for research scientists and engineers.** Other significant job growth areas in agriculture include management and finance, communications and education, and social services including dietitians, nutritionists, and compliance officers.



This profile of future employment trends in agricultural industries bears important consequences for the types of training most needed by the students of today and employees of tomorrow. Science, technology, management, and communication skills will be in demand across many employment sectors, and in some cases training in technical or production agriculture ranks behind these areas in importance. **The workforce of tomorrow clearly needs strong communication and leadership capacities, familiarity**

with computers and other technology, and other skills that translate across employment sectors.

Focus Groups and Interviews: Agribusiness Leaders

As part of this Study, MAELC staff and personnel from the Visions for Change project at the University of Minnesota conducted focus groups and interviews with leaders in Minnesota agribusiness about their current and projected future employment needs.

Many of the individuals contacted for these sessions underscored national conclusions and projections about the skills their firms most value in current and future prospective employees. In addition to communication and leadership skills, these industry leaders identified the following desired qualifications:

- holistic thinking
- ethics and an orientation to community service
- understanding of global issues and the global economy
- literacy about different cultures and languages
- conflict resolution skills
- competency in appropriate technologies
- creativity
- liberal arts background (for critical and innovative thinking skills).

This list suggests the need for agricultural education efforts to focus on a broad-based curriculum of critical thinking, experimentation, and problem-solving with agriculture providing real-world examples and opportunities for hands-on, experiential learning. Such a comprehensive curriculum would help teachers prepare students to be competitive in the workplace of tomorrow, both in agricultural industries and beyond.

When agribusiness personnel were asked about company-specific hiring needs, the same themes recurred.

- Firms such as **Pioneer Hi-Bred International** and **Upjohn** report stiff competition in the biotechnology sector for individuals qualified to work in plant and molecular biology. These firms both indicated that they don't necessarily look for candidates with a farm background or experience, focusing more on "technical skills and tremendous communication skills." These companies also indicated that they currently draw more and more employees from urban areas.

- Earnest Micek, Chairman, President, and CEO of **Cargill,** stressed the need for employees who can contribute the "fresh ideas" so critical to Cargill's success. "We need very bright, innovative, entrepreneurial people just to keep up," he said. With an expressed corporate goal of doubling in size every five to seven years, Cargill will clearly need to draw large numbers of employees with scientific expertise and problem-solving skills.

- Businesses involved in agricultural financing, such as **AgStar Farm Credit Services** and the **St. Paul Bank** for cooperatives, express difficulty in finding sufficient numbers of personnel trained in finance, economics, and technology – particularly as they face competition and increased mobility of employees within the agricultural sector and beyond.

- One notable exception to the seeming trend away from farm-background, agricultural-production trained personnel lies in the farm equipment sector. The **Farm Equipment Association of Minnesota and South Dakota** and **Seneca Foods Corporation** both indicated that they have difficulty finding sufficient numbers of service technicians and mechanics. Many equipment firms, such as **Haug Implement Company** and **John Deere,** focus on providing training to employees internally, or recruiting from primarily rural technical college

programs. But Richard Strom of the Farm Equipment Association of Minnesota and South Dakota indicates that many technician training programs across the state "struggle to maintain enough enrollment to exist, and they tell us they could place two or three times the number of graduates they have available each year." Mr. Strom feels strongly that tapping the urban workforce could greatly strengthen the agricultural mechanics sector, particularly as fewer and fewer rural youth stay involved in agriculture.

> *"In order to supply our dealerships with the employees we need now and in the future, we have to do three things. 1) Make our traditional pool of employees, the rural young people, more aware of the career opportunities in our industry. 2) Attract already trained people from other industries. 3) Look to the urban student as a potential pool for employees."*
>
> *– Richard Strom*
> *Farm Equipment Association of Minnesota and North Dakota*

Clearly, companies across the agricultural sector will need to draw employees from outside the declining rural population base to meet their future employment needs. **Efforts to provide new and expanded opportunities in agricultural education and agricultural career awareness to students in Minnesota's urban areas could play an important role in helping the agricultural sector remain a strong, vital and growing part of the state's economy.**

Focus Groups and Interviews: Ethnic Community Leaders

In light of the recognition that urban student demographics reflect large ethnic minority populations in Minnesota's urban core, ethnic community members and leaders were also

invited to participate in focus groups and interviews about their vision for what urban agricultural education efforts might entail.

These focus groups, including African American, Native American, Latino, and Southeast Asian parents, students, and educators, yielded one resounding conclusion. **Minority communities feel strongly that efforts to increase *all* Minnesota students' levels of agricultural literacy must include materials that speak to the history of various communities' relationship to the land and their roles in the food and fiber system.** With the contributions of Southeast Asian growers, Latino migrant workers, and other communities to Minnesota's agricultural economy, these groups want agricultural education curricula to reflect their input, their histories, and their values surrounding food production and land stewardship. **This inclusive approach is seen as a necessary aspect of attracting non-traditional students into agricultural education, and securing the parental and community involvement and support necessary to program success.**

Leaders of organizations such as the Chicano/Latino Affairs Council, the Asian-Pacific Islander Council, the University Migrant Project, churches and other advocacy groups echoed the concerns expressed in the focus groups. Some specific suggestions for agricultural education generated by all these constituencies include:

- Provide experiential learning opportunities in a variety of cultural, environmental, and production contexts, particularly by making land available for ethnic minority students to manage a production process
- Provide learning opportunities that address real world issues, including questions of finance and marketing
- Conduct field trips to agricultural production and processing plants, natural resources industries, and other agribusinesses to expose youth to the full range of careers in the agricultural sector
- Facilitate discussion about communities of color, their contributions to the food system, their cultural traditions and values related to the environment, and how racism reinforces their communities' role and relationship to the food system

- Offer materials in multiple languages
- Address parental involvement, especially of immigrant and new populations in rural communities
- Provide adult education opportunities to give students' parents and others a broader view of the opportunities within the food and fiber system
- Provide teacher training in cultural sensitivity
- Provide multiple cultural and international perspectives on agriculture to all students in Minnesota, and refrain from teaching only one model
- Teach students about organic production
- Include communities, churches, neighborhood and other cultural agencies, and elders in efforts to educate children about the importance of the food system, and capitalize on efforts already being made by advocacy groups to serve these populations with agricultural experiences and economic opportunities within the area of food production.

In addition, some representatives of minority communities identified a need to define minority communities' needs for agricultural and natural resources education as part of a legislative agenda which also addresses the role of these groups in Minnesota's agricultural economy. For many of these communities, their experiences as immigrants or migrant workers has led to a perception that agriculture represents a "dead-end" field where the work is hard, the pay is low, and opportunities for advancement are slender. **As a result, many minority parents do not encourage their children to pursue careers in the food and fiber system.** Additional difficulties in finding comprehensive English instruction to surmount the language barrier and achieve academic success have led to higher dropout rates among minority students, particularly Hispanics, in Minnesota. There is evidence that urban agricultural schools in other cities have generated increased success among at-risk youth (see below), and these factors need to be considered in the planning process for urban agricultural education in Minnesota, as well as in parts of greater Minnesota that have recently attracted increasing numbers of African and Asian immigrants.

As Minnesota's population and workforce continue to grow more diverse in the years ahead, agricultural education and agricultural industry will need to attract students, teachers, and employees from many ethnic communities. Secondary programs in agricultural education will need to be sensitive to these communities' needs and desires with regard to students' education in and about agriculture.

> *"We are from the earth. We will always be involved in the earth. We will always be from the land. But we will be filling different roles: research, selling, processing."*
>
> *– Migrant Farmer*

Urban Agricultural Education Efforts Elsewhere in the United States and Abroad

In envisioning urban agricultural education programs and offerings for Minnesota, the experience of others can be a great teacher. To obtain some comparative data, as well as reflections on successes and challenges often faced by urban agricultural education programs, our researchers gathered information on urban ag high schools and other programs from across the United States and around the world.

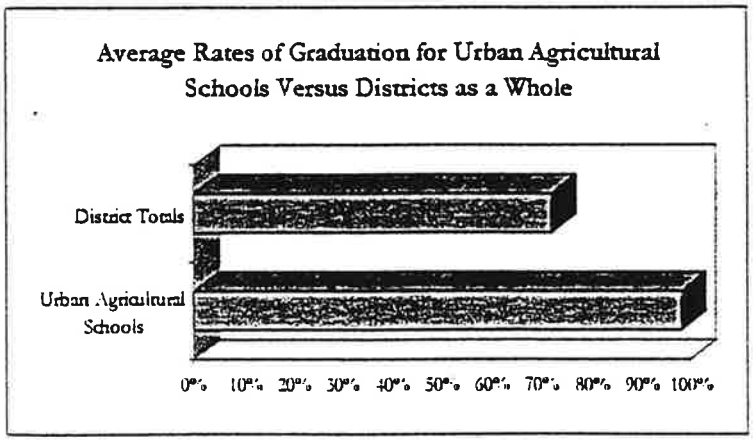
Within the United States, twelve secondary schools that participated in the third annual Forum on Education in Agriculture in Urban Schools in Philadelphia, Pennsylvania in October 1998 received a questionnaire covering administration, funding, student statistics, facilities, successes, and challenges. Some of the most significant findings were as follows:

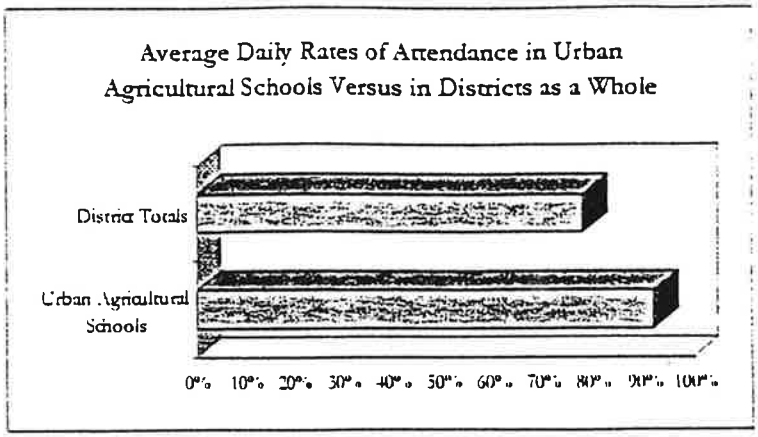
- With regard to school organization, the majority (6 of 11) represent magnet or school-within-a-school structures. Two of 11 are open enrollment public schools within their district, and one is its area's vocational-technical school. **None of the eleven schools surveyed is organized as a charter school.**

- Six of ten schools that provided responses to a question on their source for funding rely completely on some form of taxes – local, state, and/or federal – for their support. The next most common source of funding is donations from private businesses, and one school has the benefit of donated public lands for its facilities.

- Five of eight schools that provided demographic information about their students had high percentages of minority students, with one school having 96% of its students with English as a second language. Most of the schools also appeared to have made efforts to employ a diverse cadre of teachers to reflect their student populations.

- In all four schools which provided comparative data on their own graduation and daily attendance rates versus their district averages, the urban agricultural schools had above average rates of completion and attendance. In one case the urban agricultural school exceeded the average district graduation rate by 40%, and the average district attendance rate by 46%. Aggregate data from these two questions is summarized as follows:





- Most of the schools surveyed have, in addition to classrooms, a garden, a greenhouse, a laboratory, and equipment storage facilities. Five of 11 have a barn, and four have crop fields. In addition, **all but three of the schools keep animals on the premises,** ranging from "a few hamsters and small fish" to aquaculture labs, poultry flocks, or a small herd of beef cattle. A complete list of the animals kept by these schools includes both beef and dairy cattle, horses, hogs, sheep, goats, rabbits, chickens, turkeys, quail, cats, dogs, fish, reptiles, amphibians, chinchillas, hedgehogs, and guinea pigs. **Experience in the care, showing, and marketing of these animals and their products forms an important part of the urban agricultural education experience in most cases.**

- In terms of factors contributing to school success, responses were summarized and grouped into the categories of support, staff, students, curriculum, and administration/facilities. Some significant responses included:

  - **Support** from parents, the school district, universities, a strong advisory council, and the students themselves.
  - **Staff dedication,** commitment, willingness and ability to work together, **and philosophy of "putting students first."**

- Students who are recruited to the school, have a high level of interest in the program, take ownership of their learning, and are encouraged to take responsibility.
- A curriculum that includes **diverse, rigorous offerings,** a focus on developing **leadership skills,** a hands-on approach to learning, farming activities, a strong FFA organization, and coverage of environmental issues.
- Good facilities and building design, agreement on the school's mission and vision, an expectation that students will work hard, clear rules and regulations, and a positive history of student involvement and success.

- When questioned about changes they could make to strengthen their programs, the urban agricultural schools surveyed provided many responses, including the following:

  - Allow more planning time for faculty and administrators.
  - Improve counselors' awareness of career opportunities in agriculture.
  - Increase parental involvement in the school.
  - **Improve linkages with industry.**
  - **Increase staffing, and improve staff diversity.**
  - **Increase student enrollments;** select students based on level of interest in the program; allow students more freedom in class selection; have all students on campus all day.
  - Add sports, and increase staff involvement in extra-curricular activities.
  - **Complete distance learning agreements with community colleges.**
  - Add adult and community education programs.
  - Reduce class sizes.
  - **Obtain additional funding for equipment, supplies, trips, and books.**
  - **Add computer labs and new equipment.**
  - Increase the size of classrooms and shop buildings.

For this Study, researchers also gathered data on agricultural education programs offered in or near urban areas in a variety of countries, both developing and developed. The following table illustrates the variety of agricultural schools found internationally:

School	Location	Program Features
Enssino Tecnico Profissional na Área Agrícola (ETPA) *(Technical and Professional Education in the Agricultural Field)*	Portugal	• Three-year secondary degrees with general education, a choice of an agricultural field, and forestry • Student involvement in the planning process for the school farm
Groene Delta Institute for Agricultural Education	Nine locations in the western Netherlands	• Pre-vocational education for students 12-16 years old • Secondary vocational education for students 16 and up • Apprenticeship program for students ages 16 and up • Programs developed according to contracts with specific companies that reflect their market needs
Bereczki Máté Technical School	Bereczki, Hungary	• Secondary certificates for Gardening Technician Education and Agricultural Mechanics Education • Gardening Expert programs for floral decoration, vine and fruit growing, and ornamental plant and vegetable growing • Meat Processing Program in partnership with a local meat processing firm
Instituto Agrícola Calasanz-MILT *(Agricultural Institute Calasanz-MILT)*	Léon, Nicaragua	• Serves students in the equivalent of grades 7-12 • General high school curriculum provided simultaneously with agricultural courses leading to a technician's degree • Practical instruction in agricultural production on two school farms

Some of the common features that emerge from a comparison of international programs of urban agricultural education include:

- Urban agricultural schools need to include instruction in practical agriculture. This is most often accomplished by having a school farm in which students experience production and planning in a hands-on way.
- Programs in these schools need to be linked to the market and to agricultural industry. Curricula and experiential learning programs should be developed with input from agricultural businesses and be responsive to their needs.
- However, the curriculum must include a broad national and international perspective on agriculture and the environment, and be sensitive to the cultural backgrounds of the school's students. This is especially true in developing countries or other situations where the students come largely from a rural base and may have an experience of agriculture that focuses much more on food production for the local community than market-driven agricultural production for profit. Some urban agricultural schools abroad have found it difficult to recruit and retain students when the curriculum is too market-oriented and fails to address the students' understandings of food production, natural resources, and relationship to the land.

Clearly, a review of urban agricultural education efforts already underway in other cities in the United States and abroad yields many insights that can help guide the planning process for food, fiber and natural resources education in urban Minnesota. **Curricula with relevance to students' cultural backgrounds and perceptions of agriculture, that provide numerous hands-on and leadership development opportunities, that are informed by the needs of the market, and that provide exposure and preparation for the whole range of agricultural careers seem to be the keys to the recruiting, retention and success of a diverse student body.**

❖ Conclusions

Obviously, the development of urban agricultural education efforts represents a complex process involving the interplay of demographics, concerns for educational opportunity, standards of academic excellence, and economic/employment considerations. This Study

has attempted to address these issues through a variety of empirical and comparative data. Some of the Study's most significant findings include:

- The seven-county metropolitan area contains slightly over half of all Minnesota students in grades seven through twelve.
- Metro area school districts, especially Minneapolis and St. Paul, show high (and increasing) percentages of minority students.
- These same districts, however, show a relatively low percentage of minority teachers.
- **Of the 118,891 students in grades nine through twelve in the metro area, only around 3% participate in an agricultural education program.**
- Nature centers, exhibition farms, and other community-based organizations serve tens of thousands of metro area students in grades K-12 annually with agricultural, horticultural, and/or environmental education programs. However, these programs generally represent short-term educational experiences that are not integrated into the in-class curriculum and lack formal assessment mechanisms to determine their impact.
- **Minnesota Agriculture in the Classroom also provides materials and services to teachers hoping to integrate agriculture into their K-12 curricula. These efforts represent a great opportunity for increased support and expansion.**
- The agricultural sector of Minnesota's economy, always a large and vital contributor to the state's quality of life, continues to experience job growth at a rate that far outstrips the national average.
- **Many agricultural companies report shortages of qualified candidates to fill the many new job openings they have each year.**
- **Middle and secondary schools across Minnesota are also facing a shortage of agricultural education teachers.**

- Agricultural employers express a current and future need for candidates with strong leadership and communication skills and technological competency, in additional to knowledge of agricultural production.
- Members, leaders and advocates of Minnesota's ethnic minority communities demonstrate a strong interest in food, fiber and natural resources education. They want to see all the programs developed include the stories of their communities' role in Minnesota's agricultural economy, and their communities' values with regard to food production, natural resources, and land stewardship.
- Agricultural schools in other cities throughout the United States have often been successful in increasing student rates of daily attendance and graduation.
- Agricultural schools and programs in other locations across the world have created a number of successful programs, especially in direct partnership with local agribusinesses and by linking students' rural agricultural backgrounds with the larger national and international food and fiber system and market.

❖ Recommendations

On the basis of these conclusions, the Minnesota Agricultural Education Leadership Council (MAELC) has worked with the Steering Committee for this Study to produce the following recommendations for food, fiber and natural resources education and literacy efforts in urban Minnesota.

K-12 Education Recommendations for Food, Fiber and Natural Resources Literacy

- Designate a broad agricultural literacy standard for all Minnesota students.
- Make the assessment of agricultural literacy of K-12 students and adults an ongoing process.
- Increase the level of support for Minnesota Agriculture in the Classroom programs by:
  - Increasing base level funding;
  - Establishing and funding regional "ag outreach" coordinators to work with K-12 schools to maximize Ag in the Classroom's impact and provide direct support to school districts in incorporating agriculture into their curricula; and
  - Providing funding for a curriculum specialist.
- Establish a Summer Institute to provide training to non-agriculture teachers that enables them to provide education about agriculture through their subject matter. Provide guidance to these teachers about how to expand their coverage of agriculture beyond a "farm unit," and how to link their presentation of agricultural subject matter with information on career opportunities.
- Develop Summer Institutes that enable educators to hear the stories of communities of color and discuss educational considerations for diverse classrooms.
- Develop Summer Institutes for students where they can learn about different cultures and the agricultural heritage of each. Invite members of different communities to teach/ lead these institutes.
- Create an "Agriculturist in Residence" program to provide schools with access to agricultural professionals who would come into classrooms and assist teachers.
- Provide technical assistance to K-12 schools hoping to integrate agriculture into their curricula, including curricula in the humanities and social sciences.
- Develop an agri-science curriculum for the middle/junior high school level that functions not as an introduction to agricultural education but rather as a basic science course.

- Facilitate access to a garden or the creation of a garden for every school in the state.
- Create designated educational farms for students to visit.
- Create a clearinghouse system to provide information and coordination for farm visits, tours of agricultural processing facilities, and so on.
- Provide schools with funding for transportation for tours and site visits.
- Initiate and coordinate assessments of all food, fiber, and natural resources education programs, both formal and informal.

Secondary Education Recommendations for Agricultural Education Programs

- Create an urban agricultural high school in the Twin Cities core.
- Explore the possibility of making this a residential high school.
- Provide greater funding and support to other urban high schools that wish to establish agriculture programs.
- Provide additional support to agriculture programs working to utilize the latest in agricultural and instructional technologies.
- Provide funding for regional coordination sites and coordinators for agricultural education programs.
- Create a working farm, possibly with a residential component, where students bear the responsibility for the work of production.
- Develop employer-driven partnerships to provide training to potential employees.

Post-Secondary Education Initiatives

- Address the shortage of secondary teachers of agricultural education by:
    - Providing continued/increased support to the Agricultural Education teacher training program at the University of Minnesota; and
    - Establishing a partial tuition forgiveness program for agricultural education graduates who become high school agriculture teachers.

- Increase the funding for Adult Farm Management Education programs in MnSCU, particularly for programs with relevance to the agricultural crisis and for programs that provide scholarships or tuition subsidies to farmers facing hard economic times.

- Provide funding for MnSCU to continue to develop, implement, and administer "2+2" partnership programs in agricultural education with the University of Minnesota.

- Provide support for the development and delivery of bachelor of applied science degrees in agriculture.

- Include food, fiber and natural resources education within the liberal education curriculum of all post-secondary institutions, and within all teacher education programs statewide.

- Encourage University of Minnesota College of Agricultural, Food, and Environmental Sciences faculty and staff to become involved in the development of K-12 curricula, and to make other commitments to agricultural literacy research and outreach consistent with its land-grant mission.

Outreach Recommendations

- Develop and disseminate materials underscoring the importance of agriculture to schools, school boards, and other educational policy makers across the state.

- Develop and disseminate materials that overcome commonly-held negative perceptions of agriculture by focusing on the food, fiber, and natural resource system as a whole.

- Expand the availability of information about career opportunities in agriculture for students across Minnesota, including in urban schools.

- Expand the efforts to recruit students into post-secondary agriculture programs to include elementary and middle school students.

- Underwrite an ongoing forum or dialogue among educators, farmers, policy makers, and community leaders about what agricultural education is and what ethics and values of land stewardship we want to convey to Minnesota students.

General Funding Recommendations

- Restructure and enhance the funding for the MAELC grants program by:

  - Enhancing outstate paid internships for graduate students in agricultural education;
  - Matching local efforts to establish more agricultural programs in high school; and

- Supporting a statewide program for student recruitment into agricultural fields.

- Provide greater/continued funding for secondary vocational education.

- Provide greater/continued funding for the employer rebate program.

- Provide greater/continued funding for agricultural School-to-Work grants.

- Continue strong base funding for all agricultural programs at the University of Minnesota.