

**Minnesota State College and University system
Workforce Assessment initiative
July, 2012**

**Twin Cities, Minnesota
Supply and Demand in Select Agricultural Occupations**

AGRICULTURAL MECHANICS AND EQUIPMENT

**Table 1A. Education and Wages for
Agricultural Mechanics and Equipment**

Occupation Title	Education Level	Median Wage
Farm Equipment Mechanics and Service Technicians	High school diploma or equivalent	\$17.49
Mobile Heavy Equipment Mechanics, Except Engines	High school diploma or equivalent	\$26.06
Regional Average, All Occupations		\$19.41
Statewide Average, All Occupations		\$17.77

**Table 1B. Current and Future Demand
Agricultural Mechanics and Equipment**

Occupation Title	Current Demand			Future Demand	
	2009 Estimated Employment	Current Occupations in Demand Indicator (5=high)	Job Vacancy Rate	2009- 2019 Percent Growth	2009- 2019 Average Annual Openings
Farm Equipment Mechanics and Service Technicians	322	2		11.5%	10
Mobile Heavy Equipment Mechanics, Except Engines	1,507	2		11.1%	46
Regional Total - Agricultural Mechanics and Equipment	1,829			11.2%	55
Statewide Total - Agricultural Mechanics and Equipment	3,244*			14.2%	173
Regional Total - All Occupations	1,685,505		2.0%	8.5%	52,691
Statewide Total - All Occupations	2,830,000*		2.0%	13.0%	104,150

* Data represent employment estimates for 2010.

NOTE: NO SUPPLY DATA FOR **AGRICULTURAL MECHANICS AND EQUIPMENT**
AVAILABLE FOR THE TWIN CITIES MINNESOTA.

ANIMAL SCIENCE

**Table 2A. Education and Wages for
Animal Science**

Occupation Title	Education Level	Median Wage
Animal Scientists	Doctoral or professional degree	\$23.46
Farm and Home Management Advisors	Master's degree	\$14.53
First-Line Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	\$21.67
Regional Average, All Occupations		\$19.41
Statewide Average, All Occupations		\$17.77

**Table 2B. Current and Future Demand
Animal Science**

Occupation Title	2011 Estimated Employment	Current Occupations in Demand Indicator (5=high)	Job Vacancy Rate	2009- 2019 Percent Growth	2009- 2019 Average Annual Openings
Animal Scientists	121	4		13.2%	6
Farm and Home Management Advisors	NA			0.0%	
First-Line Supervisors of Farming, Fishing, and Forestry Workers	157			12.1%	6
Regional Total - Animal Science	NA			NA	12
Statewide Total - Animal Science	984*			-2.6%	968
Regional Total - All Occupations	1,685,505		2.0%	8.5%	52,691
Statewide Total - All Occupations	2,830,000*		2.0%	13.0%	104,150

****NOTE: NO DATA FOR TABLE 2C, RELATED EMPLOYMENT RATES FOR MNSCU GRADUATES****

**Table 2D. Number of Program Completers by Award Level, 2009-2010,
for Animal Science**

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Animal Sciences, General			90	4	94
Regional Total - Animal Science			90	4	94
Statewide Total - Animal Science			99	4	103

**Table 2E. Percentage of Program Completers by Award Level, 2009-2010,
for Animal Science**

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Animal Sciences, General			95.7%	4.3%	100.0%
Regional Total - Animal Science			95.7%	4.3%	100.0%
Statewide Total - Animal Science			96.1%	3.9%	100.0%

**TABLE 2F. Number of Awards Conferred by Institution, 2009-2010
for Animal Science**

	Number of Awards Conferred	Percentage of Awards Conferred
University of Minnesota-Twin Cities	94	100.0%
Regional Total - Animal Science	94	100.0%
Statewide Total - Animal Science	121	100.0%

FARM BUSINESS AND OPERATION

**Table 3A. Education and Wages for
Farm Business Operation and Management**

Occupation Title	Education Level	Median Wage
Agricultural and Food Science Technicians	Associate degree	\$18.26
Agricultural Equipment Operators		\$22.66
Animal Breeders	High school diploma or equivalent	
Farmers, Ranchers, and Other Agricultural Managers	High school diploma or equivalent	
Farmworkers and Laborers, Crop, Nursery, and Greenhouse		\$11.43
Farmworkers, Farm, Ranch, and Aquacultural Animals		\$10.42
First-Line Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	\$21.67
Life, Physical, and Social Science Technicians, All Other	Associate degree	\$25.36
Sales Representative, Wholesale and Manufacturing, Technical and Scientific Products	Bachelor's degree	\$39.72
Soil and Plant Scientists	Bachelor's degree	\$31.61
Regional Average, All Occupations		\$19.41
Statewide Average, All Occupations		\$17.77

**Table 3B. Current and Future Demand for
Farm Business Operation and Management**

Occupation Title	Current Demand			Future Demand	
	2009 Estimated Employment	Current Occupations in Demand Indicator (5=high)	Job Vacancy Rate	2009- 2019 Percent Growth	2009- 2019 Average Annual Openings
Agricultural and Food Science Technicians	339	3		1.8%	13
Agricultural Equipment Operators	NA			0.0%	
Animal Breeders	NA			0.0%	
Farmers, Ranchers, and Other Agricultural Managers	2,172			0.0%	
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	NA	4		0.0%	
Farmworkers, Farm, Ranch, and Aquacultural Animals	664	1		14.9%	28
First-Line Supervisors of Farming, Fishing, and Forestry Workers	157			12.1%	6
Life, Physical, and Social Science Technicians, All Others	476		0.041	6.3%	23
Sales Representative, Wholesale and Manufacturing, Technical and Scientific Products	6,366	5	0.033	3.0%	167
Soil and Plant Scientists	NA	3	0.023	0.0%	
Regional Total - Farm Business Operation and Management	NA			4.3%	236
Statewide Total - Farm Business Operation and Management	72,995*			0.5%	1,840
Regional Total - All Occupations	1,685,505		2.0%	8.5%	52,691
Statewide Total - All Occupations	2,830,000*		2.0%	13.0%	104,150

* Data represent employment estimates for 2010.

****NOTE: NO DATA FOR TABLE 3C, RELATED EMPLOYMENT RATES FOR MNSCU GRADUATES****

**Table 3D. Number of Program Completers by Award Level, 2009-2010,
for Farm Business Operation and Management**

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Agricultural Business and Management, Other			28		28
Agriculture, General				14	14
Regional Total - Farm Business Operation and Management			28	14	42
Statewide Total - Farm Business Operation and Management	218	196	60	14	488

**Table 3E. Percentage of Program Completers by Award Level, 2009-2010,
for Farm Business Operation and Management**

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Agricultural Business and Management, Other			100.0%		100.0%
Agriculture, General				100.0%	100.0%
Regional Total - Farm Business Operation and Management			66.7%	33.3%	100.0%
Statewide Total - Farm Business Operation and Management	44.7%	40.2%	12.3%	2.9%	100.0%

**TABLE 3F. Number of Awards Conferred by Institution, 2009-2010
for Farm Business Operation and Management**

Institution	Number of Awards Conferred	Percentage of Awards Conferred
University of Minnesota-Twin Cities	42	100.0%
Regional Total - Farm Business Operation and Management	42	100.0%
Statewide Total - Farm Business Operation and Management	1,275	100.0%

PLANT AND SOIL SCIENCE

**Table 4A. Education and Wages for
Plant and Soil Science**

Occupation Title	Education Level	Median Wage
Conservation Scientists	Bachelor's degree	\$29.90
Farmers, Ranchers, and Other Agricultural Managers	High school diploma or equivalent	
First-Line Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	\$21.67
Life, Physical, and Social Science Technicians, All Other	Associate degree	\$25.36
Microbiologists	Bachelor's degree	\$31.06
Soil and Plant Scientists	Bachelor's degree	\$31.61
Regional Average, All Occupations		\$19.41
Statewide Average, All Occupations		\$17.77

**Table 4B. Current and Future Demand for
Plant and Soil Science**

Occupation Title	Current Demand			Future Demand	
	2011 Estimated Employment	Current Occupations in Demand Indicator (5=high)	Job Vacancy Rate	2009- 2019 Percent Growth	2009- 2019 Average Annual Openings
Conservation Scientists	260	3		8.8%	5
First-Line Supervisors of Farming, Fishing, and Forestry	157			12.1%	6
Life, Physical, and Social Science Technicians, All Others	476		0.041	6.3%	23
Microbiologists	242	4	0.026	11.6%	11
Soil and Plant Scientists	NA	3	0.023	0.0%	
Regional Total - Plant and Soil Science	NA			NA	45
Statewide Total - Plant and Soil Science	3,673*			NA	1,068
Regional Total - All Occupations	1,685,505		2.0%	8.5%	52,691
Statewide Total - All Occupations	2,830,000*		2.0%	13.0%	104,150

* Data represent employment estimates for 2010.

**Table 4C. Related Employment Rate, by Program, 2010
for Plant and Soil Science***

Program	Number of Awards Conferred	Share of Available Graduates Who Found Employment Related to Major
Horticultural Science	**	**
Regional Total - Plant and Soil Science	**	**
Statewide Total - Plant and Soil Science	**	**
Regional Total - Agriculture, Agribusiness and Natural Resources	**	**
Statewide Total - Agriculture, Agribusiness and Natural Resources	431	99.2%

* Includes only graduates of Minnesota State Colleges and Universities system.

** Too few awards to report.

**Table 4D. Number of Program Completers by Award Level, 2009-2010,
for Plant and Soil Science**

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Horticultural Science		2	22		24
Plant Sciences, General			5	18	23
Soil Science and Agronomy, General				3	3
Regional Total - Plant and Soil Science		2	27	21	50
Statewide Total - Plant and Soil Science		6	33	21	60

**Table 4E. Percentage of Program Completers by Award Level, 2009-2010,
for Plant and Soil Science**

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Horticultural Science		8.3%	91.7%		100.0%
Plant Sciences, General			21.7%	78.3%	100.0%
Soil Science and Agronomy, General				100.0%	100.0%
Regional Total - Plant and Soil Science		4.0%	54.0%	42.0%	100.0%
Statewide Total - Plant and Soil Science		10.0%	55.0%	35.0%	100.0%

**TABLE 4F. Number of Awards Conferred by Institution, 2009-2010
for Plant and Soil Science**

Institution	Number of Awards Conferred	Percentage of Awards Conferred
Century Community and Technical College	2	4.0%
University of Minnesota-Twin Cities	48	96.0%
Regional Total - Plant and Soil Science	50	100.0%
Statewide Total - Plant and Soil Science	80	100.0%

FOOD SCIENCE AND TECHNOLOGY

TABLE 5A. Education and Wages for Food Science and Technology

Occupation Title	Education Level	Median Wage
Agricultural and Food Science Technicians	Associate degree	\$18.26
Agricultural Inspectors	Bachelor's degree	\$23.34
First-Line Supervisors of Farming, Fishing, and Forestry Worker	High school diploma or equivalent	\$21.67
Food Scientists and Technologists	Bachelor's degree	\$34.45
Plant and Systems Operators, All Other	High school diploma or equivalent	\$27.00
Regional Average, All Occupations		\$19.41
Statewide Average, All Occupations		\$17.77

TABLE 5B. Current and Future Demand for Food Science and Technology

Occupation Title	2009 Estimated Employment	Current Occupations in Demand Indicator (5=high)	Job Vacancy Rate	2009-2019 Percent Growth	2009-2019 Average Annual Openings
Agricultural and Food Science Technicians	339			1.8%	126
Agricultural Inspectors	47		2.3%	12.8%	16
First-Line Supervisors of Farming, Fishing, and Forestry	157			12.1%	59
Food Scientists and Technologists	NA		0.7%	23.8%	472
Plant and Systems Operators, All Other	92			-3.3%	20
Regional Total - Food Science	NA				693
Statewide Total - Food Science	3,244			7.1%	136
Regional Total - All Occupations	1,685,505		2.0%	8.5%	52,691
Statewide Total - All Occupations	2,830,000		2.0%	13.0%	104,150

****NOTE: NO DATA FOR TABLE 5C, RELATED EMPLOYMENT RATES FOR MNSCU GRADUATES****

**TABLE 5D. Number of Program Completers by Award Level 2009-2010
Food Science and Technology**

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Food Science			19	9	28
Regional Total - Food Science and Technology			19	9	28
Statewide Total - Food Science and Technology	3	2	20	9	34

**TABLE 5E. Number of Program Completers by Award Level 2009-2010
Food Science and Technology**

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Food Science			67.9%	32.1%	100.0%
Regional Total - Food Science and Technology			67.9%	32.1%	100.0%
Statewide Total - Food Science and Technology	8.8%	5.9%	58.8%	26.5%	100.0%

**TABLE 5F. Number of Program Completers by Institution 2009-2010
Food Science and Technology**

	Number of Awards Conferred	Percentage of Awards Conferred
University of Minnesota-Twin Cities	28	100.0%
Regional Total - Food Science and Technology	28	100.0%
Statewide Total - Food Science and Technology	34	100.0%