

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

**Southwest 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	\$18.43
Mobile Heavy Equipment Mechanics, Except Engines	High school diploma or equivalent	\$21.38
Regional Average, All Occupations		\$14.47
Statewide Average, All Occupations		\$17.77

**TABLE 1B. Current and Future Labor Demand
For 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	453		2.6%	-4.0%	9
Mobile Heavy Equipment Mechanics, Except Engines	314			2.9%	7
Regional Total - Agricultural Mechanics and Equipment	767			-1.2%	16
Statewide Total - Agricultural Mechanics and Equipment	4,315*			14.2%	173
Regional Total - All Occupations	206,290		2.0%	5.0%	5,518
Statewide Total - All Occupations	2,830,000*		2.0%	13.0%	104,150

*Data represent 2010 employment estimates.

**TABLE 1C. Related Employment Rate, by Program, 2010
for Agricultural Mechanics and Equipment***

Program	Number of Awards Conferred	Share of Available Graduates Who Found Employment Related to Major
Agricultural Mechanics and Equipment/Machine Technology.	10	100.0%
Agricultural Power Machinery Operation.	**	**
Regional Total - Agricultural Mechanics and Equipment	13	100.0%
Statewide Total - Agricultural Mechanics and Equipment	13	100.0%
Regional Total - Agriculture, Agribusiness and Natural Resources	108	100.0%
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 1D. Number of Program Completers by Award Level 2009-2010
for Agricultural Mechanics and Equipment**

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Agricultural Mechanics and Equipment/Machine Technology		9			9
Agricultural Power Machinery Operation	3				3
Regional Total - Agricultural Mechanics and Equipment	3	9			12
Statewide Total - Agricultural Mechanics and Equipment	3	9			12

**TABLE 1E. Percentage of Program Completers by Award Level 2009-2010
for Agricultural Mechanics and Equipment**

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Agricultural Mechanics and Equipment/Machine Technology		100.0%			100.0%
Agricultural Power Machinery Operation	100.0%				100.0%
Regional Total - Agricultural Mechanics and Equipment	25.0%	75.0%			100.0%
Statewide Total - Agricultural Mechanics and Equipment	25.0%	75.0%			100.0%

**TABLE 1F. Number of Awards Conferred by Institution, 2009-2010
for Agricultural Mechanics and Equipment**

Institution	Number of Awards Conferred	Percentage of Awards Conferred
South Central College	12	100.0%
Regional Total - Agricultural Mechanics and Equipment	12	100.0%
Statewide Total - Agricultural Mechanics and Equipment	12	100.0%

ANIMAL SCIENCE

**TABLE 2A. Education and Wages
For Animal Science**

Occupation Title	Education Level	Median Wage
Animal Scientists	Doctoral or professional degree	
Farm and Home Management Advisors	Master's degree	\$30.55
First-Line Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	\$25.05
Regional Average, All Occupations		\$14.47
Statewide Average, All Occupations		\$17.77

**TABLE 2B. Current and Future Labor Demand
Group: Animal Science**

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
Animal Scientists	NA			0.0%	
Farm and Home Management Advisors	NA			0.0%	
First-Line Supervisors of Farming, Fishing, and Forestry Workers	203	2-3		0.5%	5
Regional Total - Animal Science	NA			NA	5
Statewide Total - Animal Science	984*			NA	968
Regional Total - All Occupations	206,290		2.0%	5.0%	5,518
Statewide Total - All Occupations	2,830,000*		2.0%	13.0%	104,150

*Data represent 2010 employment estimates.

NOTE: NO SUPPLY DATA FOR **ANIMAL SCIENCE**
AVAILABLE FOR SOUTHWEST MINNESOTA.

FARM BUSINESS OPERATION AND MANAGEMENT

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

Occupation Title	Education Level	Median Wage
Agricultural and Food Science Technicians	Associate degree	
Agricultural Equipment Operators		\$14.53
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		\$10.96
Farmworkers, Farm, Ranch, and Aquacultural Animals		\$10.57
First-Line Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	
Life, Physical, and Social Science Technicians, All Other	Associate degree	
Sales Representative, Wholesale and Manufacturing, Technical and Scientific Products	Bachelor's degree	
Soil and Plant Scientists	Bachelor's degree	\$40.00
Regional Average, All Occupations		\$14.47
Statewide Average, All Occupations		\$17.77

**TABLE 3B. Current and Future Labor 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	76			1.3%	3
Agricultural Equipment Operators	160			14.4%	6
Animal Breeders	NA			0.0%	
Farmers, Ranchers, and Other Agricultural Managers	12,745	5		0.0%	
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	580			1.2%	17
Farmworkers, Farm, Ranch, and Aquacultural Animals	1,266		1.9%	-2.4%	34
First-Line Supervisors of Farming, Fishing, and Forestry Workers	203	2-3		0.5%	5
Life, Physical, and Social Science Technicians, All Others	NA			0.0%	
Sales Representative, Wholesale and Manufacturing, Technical and Scientific Projects	240	4		2.5%	7
Soil and Plant Scientists	NA			0.0%	
Regional Total - Farm Business Operation and Managers	NA			0.3%	72
Statewide Total - Farm Business Operation and Managers	72,995*			0.5%	1,840
Regional Total - All Occupations	206,290		2.0%	5.0%	5,518
Statewide Total - All Occupations	2,830,000*		2.0%	13.0%	104,150

*Data represent 2010 employment estimates.

**TABLE 3C. Related Employment Rate, by Program, 2010
Farm Business Operation and Management***

	Number of Awards Conferred	Share of Available Graduates Who Found Employment Related to Major
Agribusiness/Agricultural Business Operations	16	100.0%
Agricultural Production Operations, General	22	100.0%
Agriculture, General	**	**
Farm/Farm and Ranch Management	53	100.0%
Regional Total - Farm Business Operation and Management	95	100.0%
Statewide Total - Farm Business Operation and Management	412	99.2%
Regional Total - Agriculture, Agribusiness and Natural Resources	108	100.0%
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 3D. Number of Program Completers by Award Level 2009-2010
Farm Business Operation and Management**

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Agribusiness/Agricultural Business Operations		10	6		16
Agricultural Production Operations, General		20			20
Agriculture, General		4			4
Farm/Farm and Ranch Management	47	6			53
Regional Total - Farm Business Operation and Management	47	40	6		93
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
Agribusiness/Agricultural Business Operations		62.5%	37.5%		100.0%
Agricultural Production Operations, General		100.0%			100.0%
Agriculture, General		100.0%			100.0%
Farm/Farm and Ranch Management	88.7%	11.3%			100.0%
Regional Total - Farm Business Operation and Management	50.5%	43.0%	6.5%		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
Minnesota West Community and Technical College	57	61.3%
South Central College	30	32.3%
Southwest Minnesota State University	6	6.5%
Regional Total - Farm Business Operation and Management	93	100.0%
Statewide Total - Farm Business Operation and Management	1,275	100.0%

PLANT AND SOIL SCIENCES

**TABLE 4A. Education and Wages
For Plant and Soil Science**

Occupation Title	Education Level	Median Wage
Conservation Scientists	Bachelor's degree	\$28.08
First-Line Supervisors of Farming, Fishing, and Forestry Worker	High school diploma or equivalent	\$25.05
Life, Physical, and Social Science Technicians, All Other	Associate degree	\$17.11
Microbiologists	Bachelor's degree	\$24.17
Soil and Plant Scientists	Bachelor's degree	\$30.58
Regional Average, All Occupations		\$14.47
Statewide Average, All Occupations		\$17.77

**TABLE 4B. Current and Future Labor Demand
For Plant and Soil Science**

Occupation Title	Current Demand			Future Demand	
	2009 Estimated Employment	Current Occupations in Demand Indicator (5=high)	Job Vacancy Rate	2009- 2019 Percent	2009- 2019 Average Annual Openings
Conservation Scientists	68			0.0%	1
First-Line Supervisors of Farming, Fishing, and Forestry Workers	203	2-3		0.5%	5
Life, Physical, and Social Science Technicians, All Others	NA			0.0%	
Microbiologists	NA			0.0%	
Soil and Plant Scientists	NA			0.0%	
Regional Total - Plant and Soil Science	NA			0.4%	6
Statewide Total - Plant and Soil Science	3,673*			-2.1%	1,068
Regional Total - All Occupations	206,290		2.0%	5.0%	5,518
Statewide Total - All Occupations	2,830,000*		2.0%	13.0%	104,150

*Data represent 2010 employment estimates.

NOTE: NO SUPPLY DATA FOR **PLANT AND SOIL SCIENCE**
AVAILABLE FOR SOUTHWEST MINNESOTA.

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	\$18.51
Agricultural Inspectors	Bachelor's degree	\$20.66
First-Line Supervisors of Farming, Fishing, and Forestry Workers	High school diploma or equivalent	\$25.05
Food Scientists and Technologists	Bachelor's degree	\$33.01
Plant and Systems Operators, All Other	High school diploma or equivalent	
Regional Average, All Occupations		\$14.47
Statewide Average, All Occupations		\$17.77

**TABLE 5B. Current and Future Labor 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	76			1.3%	31
Agricultural Inspectors	83			8.4%	27
First-Line Supervisors of Farming, Fishing, and Forestry Workers	203			0.5%	51
Food Scientists and Technologists	38			15.8%	16
Plant and Systems Operators, All Other	NA			0.0%	
Regional Total - Food Science	NA			NA	125
Statewide Total - Food Science	3,244*			7.1%	136
Regional Total - All Occupations	206,290		2.0%	5.0%	5,518
Statewide Total - All Occupations	2,830,000*		2.0%	13.0%	104,150

*Data represent 2010 employment estimates.

**NOTE: NO DATA FOR TABLE 5C—RELATED EMPLOYMENT RATES
FOR MNSCU GRADUATES IN FOOD SCIENCE PROGRAMS IN
SOUTHWEST MINNESOTA**

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

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Agricultural and Food Products Processing	3	2			5
Food Technology and Processing			1		1
Regional Total - Food Science and Technology	3	2	1		6
Statewide Total - Food Science and Technology	3	2	20	9	34

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

Program Title	Certificate	Associate	Bachelor's	Advanced Degree	Total
Agricultural and Food Products Processing	60.0%	40.0%			100.0%
Food Technology and Processing			100.0%		100.0%
Regional Total - Food Science and Technology	50.0%	33.3%	16.7%		100.0%
Statewide Total - Food Science and Technology	8.8%	5.9%	58.8%	26.5%	100.0%

**TABLE 5F. Number of Awards Conferred by Institution, 2009-2010
for Food Science and Technology**

Institution	Number of Awards Conferred	Percentage of Awards Conferred
Minnesota State University-Mankato	1	16.7%
Minnesota West Community and Technical College	5	83.3%
Regional Total - Food Science and Technology	6	100.0%
Statewide Total - Food Science and Technology	34	100.0%