



AGRICULTURAL Marketing

This issue of the Ag Mag focuses on agricultural marketing. The Ag Mag's information and activities are geared primarily toward the state's third, fourth and fifth graders. The Ag Mag is distributed three times per school year. Subscriptions are free, but if you're not on the mailing list or if you know someone who wants to be added, contact the N.D. Department of Agriculture at 800-242-7535 or ndda@nd.gov.

The magazine also is on the web through the North Dakota Agriculture in the Classroom website at www.nd.gov/ndda/ag-classroom.

This magazine is one of the N.D. Agriculture in the Classroom Council activities that helps you and other K-12 teachers integrate information and activities about North Dakota agriculture across your curriculum in science, math, language arts, social studies and other classes. It's a supplemental resource rather than a separate program.

After reading this AgMag, your students will be able to:

- Tell how ag producers and consumers depend on each other
- Explain how farmers and ranchers market their commodities at different stages of the Ag Cycle
- Describe a cooperative
- Locate two countries that import North Dakota products

Idea: To introduce ag marketing, have students match up in partners. Use the Think, Pair, Share strategy to get students engaged and activating their prior knowledge. Pose this question to the class: "Everyone around the world depends on agriculture for food, clothing and shelter. With a partner, discuss, "What have you eaten or used today that came from a farm or ranch?" Have each partner share. Record responses on a chart, white board or SmartBoard slide.

So how do these crop and livestock products end up in our grocery stores, restaurants, school lunches and tables at home? That's what this AgMag issue is all about: the interdependence of consumers and producers. We buy and sell what we need from each other as part of our market-based economy.

Students usually think that agriculture just has to do with raising livestock and crops. However, agriculture also involves changing those products into forms we can use and getting those products to consumers through the process of marketing. Marketing is promoting and selling products or services – the activities involved in the transfer of goods from the producer (or seller) to the consumer (or buyer), and includes the shipping, storing, selling and advertising of those goods.

Answers to Vocabulary Match-up

- D interdependence
- A consumers
- C producers
- E economy
- F marketing
- G wholesaler
- B retailer

- A** People who buy and use products
- B** A company or person who purchases products in large quantities directly from manufacturers and then sells smaller quantities to consumers
- C** People who grow and make products
- D** When two or more people or things depend on each other
- E** A system that consists of the production, distribution and consumption of goods and services
- F** Promoting and selling products or services
- G** A company or person who buys in bulk and sells to resellers rather than directly to consumers

Marketing in Production Agriculture

Answers to Ag Cycle Steps



Answers to Which Word?

Circle the correct word to accurately complete the sentence.

1. Farmers and ranchers market their raw (**commodities** or kammodities) to processors.
2. They try to get the best price to increase their (prophet or **profit**) margin after expenses are paid.
3. Prices often are based on supply and demand. Sometimes countries are in (**desperate** or desperit) need of food for their people and are willing to pay a higher price to make sure they get delivery.
4. Sometimes producers sell (there or **their**) commodities to the local cooperative of which they're a member.
5. If the co-op makes money at the end of the year, the members will share in the (urnings or **earnings**).
6. Farmers also sell to (privetly or **privately**) owned companies.
7. Farmers may store their crops in grain (**bins** or beans) in hope that prices will go up.
8. Maybe even before planting, farmers may sign a contract that promises delivery of a certain amount of grain after (**harvest** or harvust).
9. This is called contract farming because it's ag production carried out according to an (**agreement** or agreement), or a contract.

What is the root word of marketing?

market

What other words are based on that root?

supermarket, markets, marketed, marketer, marketing — phrases: **stock market, going to market, be in the market for (wish to buy), on the market (available for sale)**

Answers to Marketing Map It

A **Watford City 11** rancher might have salespeople visit the ranch.

A crop protection agronomist might visit a **Langdon 7** farm.

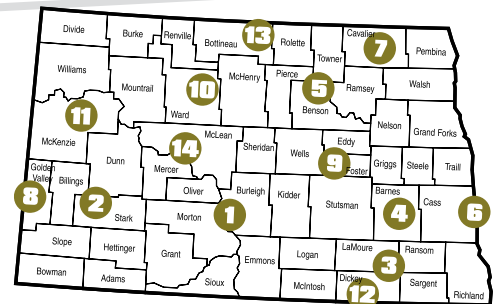
An **Ellendale 12** farmer might study farm magazines with articles and advertisements.

A **LaMoure 3** farmer might go to a farm implement dealership to check out the features of a new piece of machinery.

A **Bottineau 13** farmer might get information from a supplier's website and purchase online.

A **Carrington 9** farmer might attend an Extension meeting or field day to learn about the latest research.

A **Garrison 14** rancher might learn about new products at vendor shows like the North Dakota Winter Show in **Valley City 4**, AgriInternational in **Bismarck 1**, Big Iron in **Fargo 6** or the State Fair in **Minot 10**.



A farmer may be a shareholder in a cooperative, and buy inputs from and sell grain to the local branch, such as the CenDak Cooperative in **Leeds 5**.

A **Beach 8** rancher might buy beef calves from an auction at a sale barn, such as Stockmen's Livestock Exchange in **Dickinson 2**.

Marketing in Agricultural Processing

Answers to What Am I?

After I'm harvested, I am stored on farms or in large elevators, or marketed to a processor.	I might be purchased by a rancher as a calf.	I am ready for market when I am about 9 months old and weigh around 140 pounds.	After I'm combined, I am stored in grain bins until I'm marketed to a grain wholesaler or a flour mill.
My hulls are removed, my oil is removed and beans are crushed and rolled into flakes.	I am ready for market when I am about 1 year old. At the packing plant, I am cleaned, butchered, processed and sold to the wholesaler, who packages me.	At the packing plant, I am cleaned, butchered, and inspected.	I am cleaned and milled into flour, with my germ and bran separated.
I am marketed as meal and oil to be used in products like animal feed, biodiesel and ink.	I am marketed to consumers as chuck roast, ribs, hamburger and steak.	My wool is marketed to a textile mill, where it is spun and sold as yarn or woven into fabric.	I am marketed as flour to a consumer or to a processor or bakery that makes me into breads.
What Am I? soybeans	What Am I? beef cattle	What Am I? sheep (or lamb)	What Am I? wheat
			I produce milk after giving birth to a calf, almost 8 gallons each day.
			My milk is cooled and pumped into a truck for shipping to a dairy plant. There I am pasteurized and homogenized, or processed into other dairy products.
			I may be marketed in grocery stores as butter, cheese, yogurt and ice cream.
			What Am I? dairy cattle

Cooperatives

Idea: Have students form a cooperative. They might, for example, write out plans and guidelines, buy in with play money, sell pencils and erasers, and then share in the pretend profits. Though they're designed for high school students, you may be able to adapt lessons from the NDSU Quentin Burdick Center for Cooperatives at www.ag.ndsu.edu/cooperatives/education/high-school-cooperatives-lessons.

Answers to Marketing Math

- The North Dakota Mill and Elevator in Grand Forks is the only state-owned flour mill in the U.S. The facility cleans, processes and mills about 100,000 bushels of North Dakota wheat daily. How many bushels would that be in a seven-day week? $100,000 \times 7 = \mathbf{700,000 \text{ bushels weekly}}$
- About 80% of the mill's flour and semolina is shipped on bulk rail cars and trucks, and 20% of finished products are packaged in 5-, 10-, 25-, 50- and 100-pound bags. How many 5-pound bags would equal one 100-pound bag? $100/5 = \mathbf{20 \text{ 5-lb. bags}}$
- In February, a farmer contracted with Dakota Growers Pasta to deliver 4,000 bushels of durum in August for \$5 per bushel as long as it meets certain quality specifications. If the farmer delivers the 4,000 bushels, how much will she make? $4,000 \text{ bushels} \times \$5 = \mathbf{\$20,000}$
- Another farmer contracted to deliver 3,000 bushels of durum at \$5 per bushel to Dakota Growers, but his field suffered hail damage, and he harvested only 2,000 bushels. How much will he get for the 2,000 bushels? $2,000 \times \$5 = \mathbf{\$10,000}$
- However, to fulfill the contract, he must purchase 1,000 bushels at \$5.25 per bushel. How much will that cost? $1,000 \times \$5.25 = \mathbf{\$5,250}$
- A farmer goes to the local cooperative to purchase inputs for a 160-acre wheat field. For each input, figure how much is needed for the entire field.
Seed = \$23 per acre – $\$23/\text{acre} \times 160 \text{ acres} = \mathbf{\$3,680}$
Fertilizer = \$53 per acre – $\$53/\text{acre} \times 160 \text{ acres} = \mathbf{\$8,480}$
- A chokecherry producer wants 50 pint jars of chokecherry syrup to sell at the farmers market. Four pints of chokecherries are needed to cook down to 1 pint of syrup. How many pints of chokecherries must the producer start with to make 50 pints of syrup? $4 \text{ pints/jar} \times 50 \text{ 1-pint jars} = \mathbf{200 \text{ pints of chokecherries needed}}$
- If the producer sells all 50 pints for \$3.50 each, how much money did she make? $50 \text{ pints} \times \$3.50/\text{pint} = \mathbf{\$175}$

Career Corner

Idea: Use the Employment Opportunities for College Graduates in Food, Agriculture, Renewable Natural Resources and the Environment website sponsored by Purdue University and the U.S. Department of Agriculture's National Institute for Food and Agriculture at www.purdue.edu/usda/employment to have students investigate careers in agriculture. Have each student select one career to research. Put four large pieces of chart paper around the room, each labeled with one phase of the Ag Cycle. Have students put their career under the right category with a definition or description of what that job would be like.

Marketing in Distribution

Answers to pizza ingredients

Pizza Crust

- 4 – The North Dakota Mill and Elevator sells the flour to wholesalers and distributors who deliver it to your grocery store for you to buy.
- 1 – Farmers use seed and other inputs to raise hard red spring wheat.
- 2 – Farmers sell the harvested wheat to a local elevator.
- 3 – The local elevator sells wheat to the North Dakota Mill and Elevator in Grand Forks or another mill where it's milled into flour and packaged.

Vegetable Oil

- 1 – Farmers plant sunflowers, canola, soybeans, safflower, and corn, which are all sources of vegetable oil.
- 3 – The ADM processing plant in Enderlin, for example, turns the sunflower seeds, soybeans and canola into vegetable oil and packages it to sell.
- 2 – Farmers sell their oilseed crops after the fall harvest to a processor.
- 4 – Distributors buy the vegetable oil to sell to wholesalers (such as SuperValu and SpartanNash) and retailers like your local grocery store.

Pizza Sauce

- 2 – Local tomato producers sell their tomatoes at a farmers market, at a roadside stand or through community-supported agriculture.
- 3 – Consumers can cook and add spices to the tomatoes for homemade sauce or buy sauce made at a processing plant and distributed to a grocery store.
- 1 – Though not on a large scale in North Dakota, farmers grow tomatoes.

Pork Toppings

- 3 – Producers sell the market hogs to packing plants that sell the pork to processing centers, such as Cloverdale in Mandan, to be made into Canadian bacon, sausage, ham, and pepperoni.
- 4 – The processor sells pork products to wholesalers that sell to companies that make pizza and to grocery stores.
- 2 – At about 40 pounds, pigs are sold as feeder pigs to producers, who help them grow to about 250 pounds.
- 1 – Farmers raise sows (mother pigs) to produce baby pigs.

Cheese

- 3 – At the cheese plant, the milk is processed and packaged for distribution to wholesalers.
- 1 – Farmers raise dairy cows and usually milk them twice a day.
- 4 – Wholesalers sell the different types and sizes of cheese packages to companies that make products that use cheese and to your local grocery store.
- 2 – The milk is stored in on-farm bulk tanks until trucks arrive to deliver it to the cheese plant.

Idea: Visit a local pizza restaurant and interview the owner or manager, especially if they participate in a reading program like BookIt! Students also could Skype or FaceTime a restaurant owner/manager to ask about where they buy their inputs and how they market their products to consumers.

Idea: Use the North Dakota Special Assignment: Pizza resource at www.ndfb.org/edusafe/teachers for instructions on how to make curds and whey (a great science experiment that is a type of colloid mixture), information about cheesemaking steps, and math and language arts activities.

Idea: Have students compare the nutritional information on a milk carton with the nutritional information on a soda can. How would they market milk over soda to a target audience?

Answers to countries North Dakota exports ag products to



Answers to Exporting!

Modes of transportation may include **semis/trucks, barges, ships and more**

Ag products we import include **broccoli, oranges, lemons, limes, grapes, many fruits and vegetables**

\$4.5 billion in standard notation: **\$4,500,000,000**

Consumption Marketing

How do products that began on farms finally reach the consumer?

- B. Where producers have booths to sell directly to consumers – Farmers markets
- A. When you buy a membership and get fresh food directly from the producer every week during the growing season – Community-supported agriculture
- C. When you bid against other buyers and the person willing to pay the most purchases the products – Auction
- D. Stores owned by a group of members who share in the profits – Cooperative

Idea: Share logos students developed of products in the Ag Cycle and talk about why they selected various features for their logos. How do the logos market the products to consumers?

Idea: In cooperative groups or independently, have students develop and “market” their own ice cream flavor. Have them design the logo and container. Maybe even develop an ice cream “company” with a list of inputs needed for producers, processors and distributors. Students can research where to buy the milk, dairy processing plants, packaging plants and refrigerator car trucking companies. As a class, Skype, FaceTime or invite to class someone from a creamery or dairy farm.

Idea: Make ice cream in class using an ice-cream maker or this recipe for individual servings.

Five-minute Ice Cream

- ½ cup milk, cream, or half and half
- 1 tablespoon sugar
- ¼ teaspoon vanilla extract (or other flavoring)
- 6 tablespoons salt
- Enough ice to fill the gallon-sized bag halfway
- 1 gallon-sized zip-lock bag
- 1 pint-sized zip-lock bag

Ordinary table salt will work, but salt that has larger crystals, such as kosher salt or rock salt, will work much better. Mix the salt around in the ice and set aside.

Pour the milk, sugar and vanilla extract into a bowl and mix.

Carefully pour the mixture into the pint bag.

Close the bag, trying to squeeze out air and making sure it is completely sealed.

Put the pint bag into the gallon bag. Pour the ice/salt mixture around the pint bag inside the gallon bag. Make sure the pint bag gets buried in the ice. Try to squeeze out air, and seal the gallon bag. Shake the bags vigorously for five minutes. You might want to use a towel to hold them because they will be very cold and slippery from condensation.

Remove the pint bag, open it and grab a spoon.

Resources

Display and Activity

The Flour Milling Process — an educational display, includes early history of milling, a cross-section of a wheat kernel, a bubble display of product and a tabletop wheat grinder and wheat to grind. Joey Bailey, ND Farm Bureau, jbailey@ndfb.org or 800-367-9668 ext 2227 or 701-298-2227

Lesson Plans

Many teacher lessons and resources from North Dakota Farm Bureau at www.ndfb.org/edusafe/teachers/, including:

- Breads Around the World — PowerPoint (PPT) presentation
- Wow, What a Dairy Cow Jeopardy — PPT game
- Cheeseburger Jeopardy — PPT game

Websites

www.nd.gov/ndda/ag-classroom — ND Department of Agriculture's Agriculture in the Classroom

www.agday.org/helpful-websites — Ag Day educational websites for teachers and students

www.census.gov/foreign-trade/statistics/state/data/nd.html — State Exports from North Dakota

<https://web.extension.illinois.edu/food/index.cfm> — Where Your Food Comes From (online game)

www.agclassroom.org/teacher/stats/northdakota.pdf — Facts about ND agriculture

www.agfoundation.org — American Farm Bureau Foundation for Agriculture student and teacher resources

www.myamericanfarm.org/family_fun/activities — American Farm Bureau Foundation for Agriculture resources and online games

Books

Alpha Bakery – Children's Cookbook. General Mills, Inc. Minneapolis, MN. 1997.

Corn Belt Harvest. Bial, Raymond. Houghton Mifflin. Boston, MA. 1991.

Extra Cheese, Please! Mozzarella's Journey from Cow to Pizza. Peterson, Chris. Boyds Mills Press. Honesdale, PA. 2003.

Growing Vegetable Soup. Ehlert, Lois. Hartcourt Brace Jovanovich. San Diego, CA. 1988.

Harvest Year. Peterson, Chris. Boyds Mills Press. Honesdale, PA. 1996.

How to Make an Apple Pie and See the World. Priceman, Marjorie. Alfred A. Knopf. New York. 1996.

How to Make a Cherry Pie and See the U.S.A. Priceman, Marjorie. Alfred A. Knopf. New York. 2013.

Messipes: A Microwave Cookbook for Deliciously Messy Masterpieces. Gordon, Lynn. Random House. New York. 1996. ISBN 0-679-87426-7

What Happens to Your Food? Smith, Alistair. Usborne Publishing, Ltd. London. 2003. ISBN 0-7460-25041

Soybeans in the Story of Agriculture. Anderson, Susan and Buggie, JoAnne. Northwest Arm Press, Inc. 2009. ISBN 978-0-9811335-2-2

YouTube Clips

Agricultural Cooperatives — Key to Feeding the World www.youtube.com/watch?v=obrmpEDiXCw

The Peterson Farm Bros visit Agritechnica! www.youtube.com/watch?v=tpTfFrPcJIU

Life of a Farmer: January www.youtube.com/watch?v=ICv8IsSv8RM

Life of a Farmer: September www.youtube.com/watch?v=in3zGCyDQEQ

The Art of Cheesemaking — www.youtube.com/watch?v=dQ6LZ6MgSek

North Dakota Agriculture in the Classroom Activities

Each issue of the **Ag Mag** focuses on an agricultural commodity or topic and includes fun activities, bold graphics, interesting information and challenging problems. Send feedback and suggestions for future Ag Mag issues to:

Becky Koch
NDSU Agriculture Communication
701-231-7875
Becky.Koch@ndsu.edu

Another council teacher resource is **Project Food, Land & People** (FLP). Using the national FLP curriculum and national Agriculture in the Classroom resources, N.D. Ag in the Classroom provides 600-level credit workshops for teachers to instruct them in integrating hands-on lessons that promote the development of critical thinking skills so students can better understand the interrelationships among the environment, agriculture and people of the world. Teachers are encouraged to adapt their lessons to include North Dakota products and resources.

Project Food, Land & People has 55 lessons, including:

- Amazing Grazing
- Cows or Condos?
- Seed Surprises
- Schoolground Caretakers
- Could It Be Something They Ate?
- What Piece of the Pie?
- and many more.

For information, contact:

Jill Vigesaa
N.D. Farm Bureau Foundation
701-799-5488
jill.vigesaa@gmail.com

The N.D. Geographic Alliance conducts a two-day **Agricultural Tour for Teachers**. The tour includes farm and field visits, tours of agricultural processing plants to see what happens to products following the farm production cycle, and discussions with people involved in the global marketing of North Dakota farm products.

For information, contact:

Marilyn Weiser
North Dakota Geographic Alliance
701-858-3063
marilyn.weiser@gmail.com

Educators may apply for **mini-grants for up to \$500** for use in programs that promote K-12 agricultural literacy. Individuals or groups such as teachers, 4-H leaders, commodity groups and others interested in teaching young people about the importance of North Dakota agriculture may apply.

The proposed project must be targeted to young people 5-18 years of age and should enhance student knowledge of the contribution made by agriculture. Applications asking for funds for equipment or curriculum as well as those that involve innovative approaches to promoting agricultural literacy will be given preference. Examples of programs that may be funded: farm safety programs, purchase of agriculture curriculum, celebration of agriculture festivals, agricultural-based books for the local library, farm safety days, startup funds for a small greenhouse project, etc. Visit www.ndaginclassroom.org for ideas that can be used to support your project. Applications are due every year in early September.

For information, contact:

Thomas Winders, N.D. FFA Foundation
952-686-3643
twinders@ndffa.org

North Dakota Agriculture in the Classroom Council

Kim Alberty – Agassiz Seed and Supply, West Fargo
Aaron Anderson – N.D. Dept. of Career and Technical Education
Nancy Jo Bateman – N.D. Beef Commission
Sheri Coleman – Northern Canola Growers Association
Kirk Olson – McKenzie County Farm Bureau
Nicole Wardner – NDSU Extension – Sheridan County
Statutory Member: Superintendent of Public Instruction
Kirsten Baesler (Bob Marthaller, representative)

N.D. Department of Agriculture Contact for
Ag in the Classroom Council

Melanie Gaebe, Marketing and Information

N.D. Department of Agriculture
600 Boulevard Avenue, Dept. 602
Bismarck, ND 58505-0020
701-328-4759 or 800-242-7535
mgaebe@nd.gov
www.nd.gov/ndda
www.facebook.com/ndaginclassroom



Agricultural Market AgMag (Fall 2019)

English Language Arts and Literacy Content Standards for Reading Informational/Nonfiction Text

- Gr. 3, RI.1 Ask and answer questions to demonstrate understanding of a text (textual evidence), referring explicitly to the text as the basis for the answers.
- Gr.3, RI.2 Determine the main idea of a text and recount the key details to explain how they support the main idea.
- Gr.3, RI.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.
- Gr.4, RI.1 Refer to details and examples in a text (textual evidence) when explaining what the text says explicitly and when drawing inferences from the text. Summarize the text.
- Gr.4, RI.2 Determine the main idea of a text and explain how it is supported by key details.
- Gr.4, RI.3 Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.
- Gr.5, RI.1 Quote accurately using textual evidence when explaining what the text says explicitly and when drawing inferences from the text. Summarize the text.
- Gr.5, RI.2 Determine two or more main ideas of a text and explain how they are supported by key details.
- Gr.5, RI.3 Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.

Craft and Structure

- Gr.3, RI.4 Determine the meaning of general academic and domain specific words and phrases in a text relevant to a grade 3 topic or subject area.
- Gr.4, RI.4 Determine the meaning of general academic and domain specific words or phrases in a text relevant to a grade 4 topic or subject area.
- Gr.5, RI.4 Determine the meaning of general academic and domain specific words and phrases in a text relevant to a grade 5 topic or subject area.

North Dakota Mathematics Content Standards

Number and Operations in Base Ten

- 5.NBT.5 Fluently multiply multi-digit whole numbers using strategies flexibly, including the standard algorithm. Mastery of the standard multiplication algorithm is expected at this stage.
- 5.NBT.6 Using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division, find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors

Measurement and Data

- 4.MD.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit.

ND Social Studies Standards and Benchmarks

Grades 3-5 Economic Standards: Exchange and Markets

- E.3_5.1 Utilize fundamental principles and concepts of economics to understand economic activity (e.g., needs and wants, goods and services, opportunity cost).
- E.3_5.2 Describe how goods and services are produced and distributed.
- E.3_5.5 Describe and analyze how North Dakota's location, culture, and natural resources influence its economic decisions and development.

Geography Standards:

- G.3_5.2 Use geographic tools and technologies to acquire, process, and report information from a spatial perspective.
- G.3_5.3 Use maps, satellite images, photographs, and other representations to explain relationships between locations of places, regions, and their environmental characteristics.