These booklets are designed to present an elementary-level unit that describes a visit to a dairy farm. In a narrative format with many black and white photographs, the student booklet explains some typical activities, such as milking and haying, on the Schwartzbeck dairy farm in Maryland. The booklet is divided into seven parts, each of which can be used as an independent lesson. During the "visit" to the dairy farm, topics such as how much money it costs to buy and run a dairy farm, how much milk cows produce, and what daily life is like for the Schwartzbecks are discussed in an easily understood format. For each of the lessons in the student booklet, the teacher's guide provides objectives, activities, and questions. (KC)
Visiting Pe on a Dairy
Schwartzbecks. They live near farm.

becks. You will get to see what

dairy farm is different from your's. They are much like you and your

It tells how milk is produced.

get you.
Meet Gus and Shane Schwartzbeck. Gus, in the football jersey, is 10 years old. Shane, in the overalls, is 6. The Schwartzbecks bought their farm when Gus was 2 years old. Shane has lived here all his life.

During the school year, Gus and Shane go to school. But they also work on the farm. They do chores before supper and on the weekends.

Most of the work is fun. For example, they get to feed the calves. But some of the work isn't much fun; they have to help clean out the barns. In general, Gus and Shane do whatever needs doing. They know their work is important. They know it helps keep the farm running.

During summer vacation, Gus and Shane help even more. Besides taking care of the cattle, they also help in the fields with the crops. Friends who visit often help Gus and Shane with the chores.

Gus and Shane like farm life. They try to learn what they can about the farm. After all, when they grow up, the farm will probably belong to them.
The man in the sweatshirt is Joe Schwartzbeck. He is Gus and Shane's dad. Like Shane and Gus he grew up on a dairy farm.

Joe farms because he likes to farm. He works for himself instead of for someone else. He enjoys being his own boss. Joe Schwartzbeck is proud to be a dairy farmer.

To keep the farm going, Joe has learned to be a jack-of-all-trades. He knows about medicines to keep his livestock healthy. He also understands bookkeeping and business law. He is part mechanic, part scientist, and part businessman.

Joe works every day of the year. His day starts at 4 in the morning. When he finishes, it is usually after dark.

Joe works hard. But he is still a boy at heart. He still loves to play softball. You will get to know Joe better as he shows us the farm.
is Nona Schwartzbeck. She is Gus and Shane's mom. Every morning, Nona was up before 4 a.m. First, she helped Joe milk the cows, while Joe finished the milking, Nona checked to make sure the milk was okay. Then she cooked a big farm breakfast of chipped beef and eggs, which was just the start of Nona's day. She also helps with much of the farmwork. She is in charge of the calves, for example, she helped organize the county fair. Nona is so busy that she has office space set aside for herself.

Is that like such a busy life? You bet she does. Nona likes being able to do so much work. She feels independent. She also likes the way farm life keeps her family doing things together.
The fellow with the cigar is Harold Holman. His nickname is "Mr. Gus." Mr. Gus is not a Schwartzbeck, but he is so close to the family that he is like a member of the family.

Mr. Gus is the hired man. He's a good one, too. "He is one in a thousand," says Joe, "he knows how to work."

Mr. Gus seems to know how to do everything. He helps with all the farmwork. But he is especially good taking care of the cows. He treats them very gently.

Mr. Gus also helps the Schwartzbecks in special ways. Last night for example, he did the evening milking by himself. That way, Joe and Nona could go out for the evening.
Pets are also a part of the Schwartzbeck family. Did you hear the screen door slam? That is Blackie, their cat, looking for her pan of milk.

Upon that bale of hay is Judy Booth. She is the Schwartzbecks' basset hound. She and her new puppies love to play in the barn.

Now you have met all the Schwartzbecks. They are obviously a happy, hard-working family. The Schwartzbecks would like to show us around the farm. Let's go.
As we walk after Joe, he talks to us. "When Nona and I got married," he says, "we decided to work at something we like. We both like animals. We like country life. We like working for ourselves. We decided that dairy farming was for us."

At first, Joe tells us, he and Nona ran the farm that Joe grew up on. That farm was then sold to a land developer. Eventually the cow pasture became houses and yards. Joe and Nona had to find another farm.

Fifty miles away, Joe and Nona found a farm for sale. It was old and rundown. It had no hot water or modern electric wiring. But it did have 290 acres of good land.

Joe and Nona decided that they could make a living on that old farm. But it cost $125,000. Joe and Nona didn't have that much money. Was this the end?

Joe and Nona refused to give up their dream. They asked the Federal Land Bank for a loan. The Federal Land Bank is owned by farmers. It loans
money only to farmers who have a good chance of success.

Officers of the Federal Land Bank looked hard at the Schwartzbecks' loan application. They knew the Schwartzbecks already owned 60 good milk cows. They knew that Joe had grown up on a dairy farm. They knew that Joe and Nona were hard workers.

"Yes," the banker said, "we will loan you the money."

That was a happy day. Joe and Nona named their new place "Peace and Plenty Farm." Then they set to work.

That was 8 years ago. Today, Peace and Plenty Farm is a success. The property would be worth more than half a million dollars if they were to sell it. The old farmhouse is now clean and modern. The Schwartzbecks have made a home and a living for themselves.

We enter a new, well-lit building. It is so clean that it almost squeaks. "This building," Nona says proudly, "is the milking parlor."

In the old days, Nona explains, cows were milked by hand. It was slow, hard work. Nowadays, the milking parlor makes the job faster and easier. The person doing the milking doesn't have to carry milking machines to each cow standing in a row in a barn. The cows come to the milking parlor and take turns standing by the machines while they are milked. It's much easier that way.

"We milk our cows twice a day," Nona says. "So, you see how important the milking parlor is to us. With these machines, one person can milk 86 cows in 2 hours."

We learn that the milking parlor was expensive. Joe built it himself, and it still cost more than $28,000. That's as much as many houses cost at that time. The milking equipment is expensive. For example, those big glass jars that collect milk as it comes from the cow cost $360 each. No wonder dairy farming takes a lot of money.

Joe and Nona tell us that they enjoy working in the milking parlor. Seeing all the milk as it comes from the cows shows them the results of all their hard work. An average dairy cow gives about 10,000 pounds of milk a year. But Schwartzbeck cows average almost 16,000 pounds of milk a year. What would you say? Is Peace and Plenty Farm a success?
A dairy farm is like a ball team. The Schwartzbecks are the managers of the Peace and Plenty "team." The cows are their star players.

Notice the cows that Joe is feeding. Every one has been carefully selected for the qualities that make a good milk cow. The Schwartzbecks raised most of them from the time they were born as small calves. Joe is as proud of those cows as a manager is of his ball players. He knows the history and background and mannerisms of each cow as well as you know your best friend.

The Schwartzbecks know that cows give more milk when they are relaxed. So they treat the cows gently. For example, when Joe walks past a cow, he sometimes speaks to her by name. A friendly pat on the back is as important to a cow as it is to us.

Nona shows us her sketchbook. In it, she has been drawing the black and white markings of that new calf.
The sketch will help Nona tell that calf from all others. It will be used also to identify the animal when it is listed—registered—with the Holstein-Friesian Association, somewhat as other purebred animals are listed with their breed’s association. The sketch also is the start of a record book for that calf. In it, Nona will record who its parents were. She will keep track of its growth and health. When it grows up, Nona will keep track of how much milk it gives.

Such records are important. They tell Nona which dairy cows are the best. Those will be mated with the best possible bulls, which are offspring of the best-producing cows. The result will be even better calves.

Keeping careful records of milk production and selecting the best animals to keep in the herd have already helped the Schwartzbecks raise a national prizewinner. The Schwartzbecks sold her for $11,000. At that time, an average dairy cow sold for $500. So you see why keeping records is so important to Nona.

Joe points out the 86 cows that make up the Schwartzbeck “first team.” Because the cows have each given birth to calves, they now give milk daily for several months after the calf is born. They have proven themselves.

Joe then shows us 40 more cows. These are the second team. Joe calls them “heifers.” He explains that they are like teenage cows. They have not given birth. So they do not give milk yet. The heifers are the rookies on the Schwartzbeck farm. They have potential. But they have to earn their place on the first team.
We watch the silage spray into the air, then settle into the wagon behind Mr. Gus’s corn-chopper.

"We cut half the corn crop for green silage," Joe says. "We let the other half mature. Then we harvest the grain from it. The cows will get most of that grain, too."

If it is a good year, Joe will harvest more corn than his cows need. He will sell the extra corn to other farmers. This income, along with what he gets from selling milk, will pay his farm bills. Corn seed and fertilizer alone cost Joe $26,000 a year. A successful farmer is, after all, a good businessman.

"Then again, it might not be a good year," Joe says. "Frost might freeze the corn. Fungus might get it. Drought might stunt it. Insects might destroy it right in the field." Joe smiles. "But we will do our best," he says.

"Do you smell that?" Joe asks. We all take a deep breath. The air smells sweet. "That’s fresh-cut hay," Joe says.

"Yesterday was perfect for haying," he says. "It was warm and sunny, not a cloud in the sky. That makes hay dry quickly."

Joe explains that hay is important to cows because it provides protein. Besides the fiber in hay helps keep the cow’s digestive system healthy. "Our hay is a combination of clover, timothy grass, and alfalfa," he says.

"Is hay the same as straw?" somebody asks.

"No," Joe answers. "Hay is mostly leaves and green stems. Straw is mostly stems and isn’t very nutritious. It is older—more mature—and has few leaves.

"Mr. Gus and I will work until after midnight getting hay into the barn," Joe says. "Otherwise it might get rained on. That would wash out more than half the nutrients and the hay might spoil."

Also many leaves would fall off and be left on the ground when the hay is picked up.

We are beginning to realize that growing crops for the cows takes a lot of time. It’s a sunup-to-sundown job, at least. But Joe seems to enjoy it.

"You know," he says, "I like looking at a field of corn. Then, when I’m harvesting, I like looking back and seeing the wagon fill up with grain."
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gon," Joe ine more

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hired mechanics for $6,000 worth of work.

Peace and Plenty Farm reminds us of a small town. There are buildings everywhere and each has a purpose.

Take barns, for example. This barn holds 50 dairy cows. That one can hold 80 cows and has a special place where calves are born. Heifers share a barn with older calves, and the bulls have one to themselves.

Then there are more buildings. The tall, round ones are silos. The short ones are grain bins. Remember the grain that Joe grows? He stores it in the bins to protect it from weather, insects, and other pests.

Most of the silage is stored in that long, low, three-sided building without a roof. It's called a bunker and it holds 1,200 tons of silage. That's enough to feed all the Schwartzbeck cows for a full year.

On Peace and Plenty Farm, even the machines have their own buildings. The buildings protect the machines from rust and dirt. Joe invites us to look at the machine shop with him.

In a few minutes, blinding light from Joe's arc-welder fills the shop. Joe is using an arc welder to apply a hard substance to the edge of his plow. Soon, he turns off the arc-welder and lifts the mask that protected his eyes.

"Most of my work in the machine shop is to prevent breakdowns," Joe says. "This arc-welding is an example. It keeps the plow's edge hard."

Then Joe turns to the corn planter. "Here's another example," he says. "See this little spring? It costs only a few bucks. But I check it regularly, because if the spring breaks, the whole machine stops. That could mean getting the corn planted late. It could mean the difference between a good year and a bad year. That's why I try to prevent problems before they start. That's why the machine shop is so important to the farm."
We walk out of the shop and into bright daylight. We have seen most of Peace and Plenty Farm, but our tour isn't quite over. "Come on into the kitchen," Gus calls.

As we enter the kitchen, we are greeted by a great smell. Nona has baked a cake for us! There's cake and milk for everybody.

The cake is as good as it smells. As we eat, we have a chance to ask the Schwartzbecks some more questions.

"Are there many dairy farms in the United States?" somebody asks.

"There are about 300,000 of them," Joe says. "But every day we lose some. When I was a kid in 1950, more than 3½ million farms had milk cows. Now there are fewer than half a million."

"Does that mean there is less milk being produced than in the old days?" someone asks.
“It seems like it should,” Joe answers. “But we are getting as much milk now as we did then.”

“How can that be?” someone asks.

“Because each cow produces more milk for one thing,” Joe says. “In 1950, the average cow produced about 5,000 pounds of milk a year. Today, she produces more than double that. You can see that we get the same amount of milk with half as many cows.”

“Is this a big dairy farm?” somebody asks.

“No,” Joe says. “By today’s standards, Peace and Plenty is a small farm. There are fewer and fewer dairy farms, but they are getting bigger and bigger. Why, down in Florida, there is a farm with more than 7,000 cows.”

Our questions stop for a minute as Nona offers more milk. Most of us ask for seconds.

“Where does all your milk go?” somebody asks. “Do people drink it all?”

“People drink a lot of it,” Nona says. “The milk used for drinking is called Class I Milk. But farmers produce more milk than people can drink. The extra milk can be Class II or Class III.”

“What happens to Class II and Class III Milk?” someone asks.

“Class II Milk is made into ice cream, yogurt, cottage cheese, and other soft dairy products,” Nona answers. “Class III is used in powdered milk, hard cheeses, and butter. Class III Milk also ends up in many kinds of packaged food. You should look for it in the list of ingredients. It may be hard to believe, but, statistically speaking, every one of us uses about 500 pounds of milk a year.”

Someone notices that it is time to head home. It has been a great visit. We thank the Schwartzbecks for sharing their day with us. We thank Nona for the cake and milk. Then we say “farewell” to Peace and Plenty Farm. We hope that the farm will continue to prosper.

Today we have seen what life is like on a dairy farm. Next time we pass one, we will know what goes on there. We will remember about cows, heifers, bulls, and calves. We will know more about the crops we see.
growing. We will better understand how the machines and buildings are used.

But most of all, we will appreciate the family that lives on the farm. We will know how hard they work to produce milk for all of us. And we will know that they love their work. We will remember our visit with the Schwartzbecks.

—END—
Cut Out Your Own Cow

FOLD ALONG THE DOTTED LINES

ATTACH HEAD HERE

CUT OUT AND CURL HAIR AROUND PENCIL
Visiting People on a Dairy Farm
A Note to the Teacher

The purpose of this booklet is to help your students understand where milk comes from, and to show them what life is like on a dairy farm. It evolved from an extensive visit with the Schwartzbeck family.

This Teacher's Guide can serve as a lesson plan for the booklet. It contains objectives, activities, and questions. Both the booklet and the guide are divided into seven parts, each of which can be used as an independent lesson. Parts one and two, which are comparatively short, can also be combined as one lesson.

We think that you will find these materials to be especially useful in helping students learn about a vital part of life. If we can be of further assistance, please contact:

Special Programs Center
Room 528-A
Office of Governmental and Public Affairs
U.S. Department of Agriculture
Washington, D.C. 20250

April 1981
Lesson 1:
Introduction

Objective 1. For the student to understand that this booklet is about life on a dairy farm and about how milk is produced.

Question 1. Where do the Schwartzbecks live?
A. They live in the country near Baltimore, Maryland.

Question 2. What is this story about?
A. This story is about life on the dairy farm and about how milk is produced.
Lesson 2.
The People

Objective 1. For the student to understand that the Schwartzbeck family works together.

Question 1. Who are Gus and Shane? What do they do on the farm?
   A. Gus and Shane are the Schwartzbeck youngsters. Their chores include feeding calves and cleaning the barns, helping to plant corn and harvest hay, and learning to fix machines. They also play a lot.

Question 2. What will happen to the farm when Gus and Shane grow up?
   A. The farm will probably belong to Gus and Shane.

Question 3. Why do Joe and Nona farm for a living?
   A. Joe and Nona like to farm. They like living in the country, and they prefer to work for themselves.

Question 4. Explain how Joe is a jack-of-all-trades.
   A. Joe does many different jobs on the farm. He has to have some understanding of law, bookkeeping, animal medicine, mechanics, science, business, and dairy farming.

Question 5. What kind of work does Nona do on the farm?
   A. Nona is in charge of some jobs and helps out on others. She is in charge of the calves and helps in the milking. She keeps many farm records, functions as a mother and homemaker, and helps in the community with such things as the county fair.

Question 6. Who is Harold Holman and what is his job?
   A. The Schwartzbecks call Harold Holman "Mr. Gus." He is the hired man and helps with all the farmwork. He is especially good with cows.

Activity 1. List the chores that you do at home. Which ones do you like best? The least? Explain how your chores help the rest of your family.

Activity 2. Tell about someone who is "one in a thousand" like Mr. Gus.
Lesson 3: The Farm

Objective 1. For the student to explain that hard work, experience, and borrowed money made the Schwartzbeck dream farm a reality.

Objective 2. For the student to explain that high milk production is important to a dairy farm.

Question 1. What was Peace and Plenty Farm like when Joe and Nona bought it?
A. Peace and Plenty Farm was rundown. The big house had no modern electricity and hot water. But the farm did have 290 acres of good land.

Question 2. Who owns the Federal Land Bank, and to whom do they lend money?
A. The Federal Land Bank is owned by farmers and they lend money to farmers.

Question 3. Why did the Federal Land Bank lend money to the Schwartzbecks?
A. The Federal Land Bank lent the money because it believed the Schwartzbecks could be successful. They already owned 60 dairy cows, had farm experience, and were hard workers.

Question 4. What is Peace and Plenty Farm like now?
A. Peace and Plenty Farm is producing all the corn, hay, and milk that its new owners thought it could. Many new cows have been added. The big house has been modernized and a lot of new buildings have been built.

Question 5. What is the milk parlor and why was it built?
A. The milk parlor is the building where the cows are milked. It was built to make milking faster and easier.

Question 6. Compare the amount of milk that Schwartzbeck cows give with the amount of milk given by average cows.
A. Schwartzbeck cows give almost 16,000 pounds of milk a year.
   Average cows give about 10,000 pounds.

Activity 1. The Schwartzbecks call their home “Peace and Plenty Farm.” What would be a good name for your home?

continued on page 4
Activity 2. The Schwartzbecks went into dairy farming because it interested them. List some of your interests. Then think of some jobs that would interest you.

Activity 3. A quart of milk weighs about 2 pounds. a) How many quarts of milk does a Schwartzbeck cow give a year? b) How many quarts does it give in a day? c) Find out how many quarts of milk your class drinks a day. d) Then figure out how many Schwartzbeck cows your class would need to supply it with milk.
Lesson 4:
The Animals

Objective 1: For the student to understand why some cows give more milk than others.

Question 1. Why are the Schwartzbecks gentle with their cows?
A. They are gentle with their cows because relaxed cows give more milk.

Question 2. Why do the Schwartzbecks keep such careful records on each milk cow?
A. Careful records help select better dairy cows. It is like keeping the player with the better batting average and trading away those with poor batting averages. The cows are bred to the best bulls to produce the most promising calves.

Question 3. What is a heifer?
A. A heifer is a kind of "teenage" cow. Because a heifer has not yet had a calf, it does not yet give milk.

Activity 1. Give an example, from your own experience, of when being gentle to an animal has paid off.
Activity 2. Find out if anybody in your class owns a registered animal. Have them explain the "family tree" of their animal.
Lesson 5: The Crops

Objective 1. For the student to name crops that are important feed for dairy cows.

Objective 2. For the student to name factors that decrease crop yield.

Question 1. Give two reasons that Joe raises crops.
A. He raises crops to feed his cows. If he had to buy all his feed, it would be very expensive to feed them. He usually harvests more feed than he can use. He sells the extra for cash to pay for expenses such as fertilizer.

Question 2. Name two crops grown on Peace and Plenty Farm.
A. Corn and hay are grown on Peace and Plenty Farm.

Question 3. What is silage and how is it used?
A. Silage is chopped green corn. It includes stalks, leaves, and immature ears of corn. Silage is fed to dairy cows; they love it.

Question 4. If Joe is unlucky, what could happen to his corn crop?
A. The crop could be destroyed by frost, fungus, drought, or insects.

Question 5. What is hay, and why is it important for dairy cows?
A. The hay used on this farm is a combination of clover, alfalfa, and timothy. It is important as a source of fiber, which helps to keep the cow's digestive system healthy. It is a good source of protein, also.

Question 6. Why is it important to get the hay stored before it is rained on?
A. Rain washes away the soluble nutrients in hay. It also separates some of the leaves from the stems, and they are left in the field. The leaves contain the best nutrients. It may also cause some spoilage, resulting in poor feed.

Activity 1. Find out what would happen to a cow if it were not milked. (If the cow missed even one milking, she would be in great pain. In a few days, if she were not milked, she would dry up, perhaps even develop a disease called mastitis.)
**Activity 2.** Invite a dairy farmer to visit your class. Ask the farmer whether it is possible that there will not always be enough milk for everyone to drink. Also ask what the weather was like last year and whether it was good for a dairy farm.

**Activity 3.** Ask the local Agricultural Extension Agent if he or she would visit your class and explain how corn and hay are important to dairy cows.

**Activity 4.** Ask the Extension Agent to save you copies of old farm magazines to clip. Make a mural or collage of a dairy farm. Be sure to include different kinds of cattle (such as cows, bulls, heifers, and calves) and different kinds of crops.

**Activity 5.** Next time you visit a county or State fair, look for live dairy cows and crops they eat.
Lesson 6: Machines and Buildings

Objective 1. For the student to be able to list machines used on a dairy farm.

Objective 2. For the student to be able to list buildings that are found on a dairy farm.

Question 1. Name some of the machines used on Peace and Plenty Farm.
   A. The farm uses tractors, corn-choppers, hay balers, corn planters, plows, and trucks.

Question 2. How can the Schwartzbecks use machines that they don’t own?
   A. They can share with their neighbors.

Question 3. How does Joe keep his machines in tiptop shape?
   A. Joe fixes them himself. He seldom hires a mechanic.

Question 4. What is stored in the silos, and why is it stored there?
   A. Silage is stored in the silos, which protect the chopped corn from weather.

Activity 1. Make your mural or collage more complete. Include different kinds of buildings and machines needed on a dairy farm.

Activity 2. Sharing machines is an old farm custom that saves money. Make a list of things that you share with your friends.

Activity 3. Keeping farm machines in tiptop shape keeps them from breaking down. Make a list of your belongings that you try to keep in tiptop shape.
Lesson 7:
A Visit to the Kitchen

Objective 1. For the student to understand that there is a trend toward fewer but larger dairy farms.
Objective 2. For the student to understand there are three classes of milk and to be able to explain how each class is used.

Question 1. How many dairy farms are there in the United States today? How many were there when Joe was a youngster?
A. Today there are about 300,000 dairy farms. When Joe was a youngster, there were 3,500,000 . . . more than 10 times as many.

Question 2. Does the United States produce more or less milk now than it did when Joe was young?
A. It produces about the same now as it did then.

Question 3. Compare the size of dairy farms now with the size of dairy farms when Joe was young.
A. Dairy farms are much larger now. A dairy with 100 cows used to be a big farm. Today, some unusual farms have more than 7,000 dairy cows.

Question 4. What is Class I Milk?
A. Class I Milk is drinking milk.

Question 5. What are Class II and Class III Milk and how are they used?
A. When more milk is produced than people will buy to drink, it is called Class II and Class III Milk. Class II and Class III Milk are made into dairy products such as powdered milk, nonfat dry milk, cheese, butter, and ice cream.

Question 6. How much milk does the average American use each year?
A. The average American uses about 500 pounds of milk and milk products each year.

Activity 1. Locate a dairy farm in your area. Then arrange to visit it.
Activity 2. Make a list of foods that have milk in them. See how big a list your class can make in a week. Reading the labels on packaged foods will help you in this activity.

END