

## Case Study I-A

Steve is a middle-aged business man who lives in Arizona. He is frequently on the road in the western United States, making a couple of trips a year to Southeast Asia and the Netherlands. Steve is married and has two teen-age children. His marriage has had its ups and downs, but he is currently living at home, and though things are sometimes a bit tense, he generally gets along with his wife. They participate in mutually enjoyable sexual activities on a regular basis. Steve recently made a trip to Thailand. While he was gone, some test results from the doctor's office arrived at the house. His wife, without thinking, opened the envelope. There were some blood tests results including a negative test for HIV. Steve arrived home a few days later. His wife confronted him with the test results and asked why he had had an HIV test. He responded that while he had not more than a couple of short term affairs during their rocky marriage, he regularly visited prostitutes while on business trips. He said, "I primarily use the ones in Nevada and overseas so there is less chance I will get picked up and embarrass my company." His wife, Grace, was not happy.

Prostitution is illegal in all parts of the United States except for few counties in Nevada. It is illegal in some countries of the world, legal in others. What constitutes prostitution may differ slightly from place to place.

1. Make a list of ethical issues that arise in this case study.
2. Write a paragraph or two outlining arguments on both sides of the issue of whether it is ethical for the citizens of a particular domain to legalize prostitution.
3. Discuss whether Steve's actions should be evaluated differently if he visits a prostitute in Nevada versus picks one up on the street in San Francisco.
4. Would you evaluate Steve's actions differently if his name was Kittichai, his wife's Karnshcna, and they had had lived in Thailand all their lives?
5. To what extent was the opening of the envelope an ethical lapse by Grace? Was it ethical for her to confront Steve after she accidentally opened his mail?
6. Would it be ethical for Grace to file for divorce, take the children, and move in with Steve's mother (who has always had some concerns about Steve, anyway)?

## Case Study I-B

Sarah grew up in a small farming community in western Kansas. She has three sisters and four brothers. Her parents are hard working farmers who grow wheat and sorghum and background stocker cattle. They are a religious family, reading passages from the New Testament daily. She is bright and energetic and attended Colorado State University in Fort Collins for her first three years of college, majoring in elementary education. In her senior year, she met Josiah, also a farm boy, from southern Colorado. He is an adult student who attends one semester each year, returning to his home in southwest Colorado for the remainder of the year. Sarah was fascinated with Josiah and his stories of life in a small community in rural Colorado. They fell in love and married the summer after her senior year. Sarah received a good job offer to teach second grade in Boulder. They decided after some discussion that Josiah would return to the farm for the fall and then transfer to the University of Colorado in the spring. Josiah returned to Boulder on the weekends at least every other week during the fall semester. He moved to Boulder in January, returning home every two to three weeks to supervise farm work. Josiah and Sarah decided to move to Josiah's home town for the summer after her first year on the job. Josiah has a large town house in the small town where they live. A single woman named Ruth, about 30, with three small children, lives next door. Josiah explained to Sarah that she was a second cousin whose husband was killed in a farm accident. Sarah and this cousin of Josiah's become good friends. Sarah and Josiah talk about Sarah remaining in this small town for the next school year, teaching at the local school, while Josiah returns to Boulder for another semester of school. One day in October Sarah starts feeling ill at school, dizzy, and a bit nauseous. Another teacher drives her home and drops her off in front of the house. In her rush to get home she realizes that she has left her keys at school, so she walks into Ruth's house to get the extra set of keys. She doesn't see her and so walks upstairs to see if Ruth is taking a nap. Ruth is upstairs, but is not taking a nap. She and Josiah are in the throes of lovemaking. Sarah nearly faints and drops into a chair. After a while, Ruth and Josiah explain that she is not his cousin, but his wife. They explain that many of the men in this small town have more than one wife. It is a way of life, close knit families headed by a loving father who provides room, board, nurturing and love for his wives and children. They express their love for Sarah and ask her not to judge their actions. They read her several passages from the Old Testament about how great men such as Abraham and Jacob had more than one wife and it was accounted unto them for righteousness. After her initial shock, Sarah wonders what she should do. Josiah and Ruth, both of whom she loves, seem very eager for Josiah to maintain his polygamous relationship with both of them. They also explain that Josiah will be returning to Boulder in the spring to hopefully bring another wife home to bless their families. Sarah's religious teachings seem to forbid polygamy and she knows it is against the law. But Josiah and Ruth seem so happy and he likes to be with them so much. What is Sarah to do?

Polygamy is not legal in the United States, but in the global community it is common, normal and accepted. Although the percentage of men in the world who have more than one wife is relatively small, as many as a third of the world's population belongs to a community that allows it, says Israeli anthropologist Joseph Ginat. There are many plural marriages in Africa, the Middle East and in Asia, said Ginat, professor of social and culture anthropology at the University of Haifa. Many American Indian tribes allow polygamy; several experimental Christian groups practice it. Polygamy is the most prevalent in Muslim countries where there are no laws against it, and in communities that are more traditional and agrarian. For example, it is common and growing among the 180,000 Bedouin of Israel. It is also frequent among some Mediterranean Jews living in Yemen. But having multiple wives and families requires money, so in each society that permits polygamy, only 10 percent to 25 percent of men actually practice it, and most have only two wives, Ginat said. The men most likely to be involved are those with the most economic resources and most status in the community.

1. Make a list of ethical issues that arise in this case study.
2. Write a paragraph or two outlining arguments on both sides of the issue of whether it is ethical for the citizens of a particular religious persuasion that endorses polygamy to actively practice it, even if it is illegal where they live.
3. Make an ethical argument both for and against polygamous marriage.
4. Discuss whether Sarah's choice to join Josiah and Ruth in a polygamous marriage would have different ethical implications in Iran, as compared to Colorado. Would the whole ethical context of the case study change if it were to take place in Saudi Arabia.?
5. Are Josiah's excursions to find new wives an ethical approach to expanding his family? Discuss why or why not. Would you evaluate his approach differently if he were traveling to a country ruled by a cruel dictator in a society where women were second class citizens and regularly raped and otherwise abused by the males in the society? Why or why not?
6. If Sarah were to decide to stay with Josiah and Ruth, what type of ethical arguments might she make to her parents who are horrified that their daughter has been brainwashed by a polygamous cult? What ethical arguments might her parents make in rebuttal?

## Case Study I-C

The Johnson family lives in Cedar Falls Iowa, a medium sized university town in the Midwest. The father, Hal, is employed by the local university as an accountant, his wife Inga is employed part time at the local public library. They have three small children, Norman, Anna, and Peter, all under the age of eight. They recently moved to a new home on the edge of town, still close to the university, but in an area where a number of families live on small acreages. Their closest neighbor is the Halkiopoulos family. They have two small children, Andreus and Neola, about the age of the Johnson kids. The families hit it off really well and have a great fall and holiday season. The Johnson family is Lutheran while the Halkiopoulos belong to the Greek Orthodox Church, which has only a small branch in Cedar Falls. They enjoy comparing traditions, both national and religious ones. In the spring of the year, the Halkiopoulos family buys four small lambs and feeds them from a bottle for several weeks. The children of both families love playing with the lambs in the Halkiopoulos's pasture. The Johnson children notice that for some reason the Halkiopoulos kids never take any meat when they come over to play and stay to eat, unlike in the fall and winter. One Saturday morning in April, the Johnson children woke up early and ran over the Halkiopoulos's pasture to play with the children and their lambs. Much to their surprise the lambs were hanging upside down from some trees in the yard with their heads removed and large incisions in their abdomens. The Halkiopoulos family was preparing to celebrate Easter. The Johnson children were shocked when the Halkiopoulos children explained that they would be roasting the lambs on a spit the next day as part of their Easter meal. The Johnson family went home crying and wondering how their friends could be so cruel.

1. Make a list of ethical issues that arise in this case study.
2. The case study does not describe the way in which the lambs were butchered. Discuss some alternative methods and how you would ethically evaluate them, assuming you feel it is ethical to butcher the lambs at all.
3. The lambs slaughtered in this case study were butchered and then roasted as part of an Easter feast. Discuss why you might or might not make a different ethical judgment about slaughtering the lambs if they were instead burned in pieces on an altar with none of the parts saved for any other purposes.
4. The Johnson children return home crying and ask their father how Mr. Halkiopoulos could be so mean. They say they will never eat lamb again; they will only eat beef and pork. How might Mr. Johnson explain to his children why they should not be angry with Mr. Halkiopoulos? How might Mr. Johnson's answers be different if he was a vegetarian, but his wife and children routinely eat meat? How would he explain why he does not eat meat, but feels fine about his children doing so?
5. The slaughter and subsequent roasting of the lambs is part of a religious celebration for the Halkiopoulos family. The laws in Cedar Falls prohibit the slaughter of livestock anywhere but in an approved slaughterhouse or game locker, except in the case of religious ceremonies or other such circumstances. Would this information be useful to Mr. Johnson in

- explaining why it might be okay for the Halkiopoulos family to kill the little lambs? Or is this information irrelevant to the ethical issues here? Why or why not?
6. How would you evaluate the following argument that Mr. Johnson gives for being a vegetarian. "When I was about eight years old, I went to my grandfather's farm in southern Minnesota. They were slaughtering some young calves for veal. After they slit the throat of the first one and the blood ran out all over the ground, the other calves started bawling and peeing all over the ground and running around with a look of terror in their eyes. I started to throw up right there in the barnyard, I was so sick. I have never eaten meat since."
  7. Why might Mr. Johnson not have strongly encouraged his children to be vegetarians?

## Case Study I-D

Herman is a twenty three year old college student in Germany. He is an art major with an interest in advertising. He is politically active in the environmental movement. He is very careful about what he eats, emphasizing fresh fruits, vegetables, and grains in his diet, with moderate consumption of meat and dairy products. Over the past couple of years he has read many articles in the popular press about food products produced with genetically modified organisms. He sees them as a threat to good health and a natural environment. Along with a large number of students at his university, he is active in pointing out these dangers and encouraging the government to restrict their import from North America. Kyle is an exchange student from Minneapolis, Minnesota in the northern United States. He is a microbiology major, but is in Germany on a study abroad program, mostly taking classes to fill general education and internationalization requirements. He and Herman end up living in the same housing complex and sometimes hang out together. They often argue about Herman's views on genetically modified organisms. Below are some arguments that Herman has made to justify his abhorrence of these products. Discuss how well he defines a moral position for each argument.

1. It is not natural for genetic material to move from one organism to another. It never happens in nature. Tampering with natural processes is a priori wrong. Those who do so are committing a sin against nature.
2. There have been many cases in Europe where the seeds from genetically modified foods have produced plants containing moderate amounts of DDT and a large number of people have died as a result.
3. Anytime man uses biotechnology to alter food products, he is striking a bargain with the devil. Kyle, thinking out loud, wonders what Herman thinks of the use of biotechnology. Herman asks Kyle to explain. "Biotechnology contributes the development of new vaccines. Vaccines help the body recognize and fight diseases. Conventional vaccines use weakened or killed forms of a virus to introduce antigens, proteins on the surface of viruses that the immune system uses to identify the virus. The body then produces antibodies that build resistance to the disease. A biotechnology vaccine consists only of the antigen, not the actual virus. By isolating antigens and producing them in the laboratory, it is possible to make new vaccines that cannot transmit the virus itself." Herman is impressed with this idea. Kyle asks, "So biotechnology is okay or produce vaccines, but not food?" Herman's reply is that human health is a different matter than the food we eat.
4. Genetically modified foods are produced by large multinational companies whose only interest is profit and exploitation of the world's poor. Nothing they produce can possibly have any positive benefit for mankind.
5. Just thinking about eating a food that has been produced by some artificial process in the laboratory rather than naturally in nature makes the food unpalatable to me. I am sure most people feel the same. We need to protect them from this evil idea forced on us by a few over zealous American scientists.

6. If you were to take a poll of the students and faculty at this university, most of them would be opposed to the production and importation of genetically modified foods. The faculty and students here are some of the brightest in the entire world. That is enough proof for me. This stuff must be bad.

## Case Study I-E

Beth is a sophomore at Ohio State University. She was raised in a religious home in western Pennsylvania. Her parents emphasized the importance of living a moral life, particularly in matters relating to the use of illegal drugs and premarital sex. While generally agreeing with her parents' views on such matters, Beth develops a somewhat more casual attitude toward some of these issues than that of her parents, but still feels she lives a basically moral life, never hurting any other person or infringing on their rights. She has smoked a joint a couple of times with friends, but never even thought of using meth or coke. While still a virgin when she came to OSU, she has had a couple of boyfriends, and occasionally slept with a guy she met at bar or frat party. She is extremely meticulous about hygiene and safe sexual practices. She gets free birth control pills from Planned Parenthood and keeps a box of condoms in her backpack and a few loose ones in her purse. She never goes home with guys, preferring they come to her four bedroom apartment where there is almost always someone at home. She attends church most Sundays and teaches the 10<sup>th</sup> grade Sunday school class.

During her fourth semester at OSU, she meets Larry. He is a fifth year senior majoring in theater. He also works as a technician for the university film department, helping to make videos and DVDs for Extension programs. Larry is one of the most intelligent and interesting people she has ever met. He seems to know everything there is to know about people and places and cultures, he is an ardent student of eastern religions. He always seems to be living on the edge of reality, pushing the envelope of discovery. They hit it off and are soon spending days and most nights together. Larry introduces Beth to all sorts of sexual practices, most lots of fun, a few kind of different. After the first few times at Beth's, they decide it is more convenient to spend time together at Larry's place. He lives alone and has a huge bedroom and her roommates don't make silly comments about the noise and stuff. Beth sometimes stresses a bit about some of the things they end up doing, kind of weird, but Larry is so knowledgeable and inviting, and she hasn't really heard anyone say that any of these things were really wrong or anything, and most don't really hurt or anything. And Larry certainly enjoys them. She is a bit put off by some of Larry's magazines and books, but figures everyone deserves a few indulgences. As Beth comes to trust Larry and feel a real closeness to him, she stops asking him to use condoms; he is obviously a person who would not be stupid enough to contract an STD. Before Beth fully realizes all that is happening, she learns that Larry and some of his friends are employed by an internet company specializing in unusual porn. This really ticks her off and she confronts Larry in a rage. "How could you be involved in such trash? I can't believe you would sell out to these scumbags." He kind of smiles and says, "Why don't you come in the living room and I'll show you a clip, it isn't all that bad you know, there is an artistic flair to it." Beth starts to leave as Larry switches on the projection television. Across the screen flashes Larry's muscular and nude body gazing at Beth suspended from the ceiling in ...

1. Make a list of ethical issues that arise in this case study.

2. Why do you think Beth's parent's emphasized the importance of living a moral life? Discuss what types of moral principles a parent might want to convey to their children as they prepare to leave home. Make a list to share with the group.
3. What do you think were Beth's moral principles when she came to OSU? What about after her first three semesters? Do you think they changed in any fundamental way, or just evolved as she matured and became more familiar with common practices in a university community? What were Beth's moral principles after a few weeks with Larry? Did they change in any fundamental way?
4. Do you think things went badly for Beth? Why or why not? What are some things that might have led to different memories for Beth of her second spring in Ohio?
5. Discuss how limited rationality is related to Beth's situation? Was she doing what she thought was best for her at the time? Why did she do the things she did?
6. Would you describe Larry as a person with limited sympathies? Why or why not? What were some of the things he got from his relationship with Beth? What was he giving Beth in return? Was she getting a good deal?

## Case Study I-F

Randy is the accountant for a feed and seed cooperative in central Illinois. The coop provides a variety of services to its members: fertilizer sales and application, all types of pesticides, custom spraying, farm supplies such as gloves, bolts, tools, oil and the like, premixed feed as well as bagged premixes and individual ingredients such as vitamin E and dicalcium phosphate. Randy's younger brother Ray is the manager of the coop. There are fifteen employees, some who work primarily on the premises, others who work as applicators and deliverymen. Randy is in charge of all the financial transactions, paying for the materials purchased by the coop, receiving cash payments and those on account. He also is in charge of determining and distributing patronage dividends at the end of each year. Randy's wife Marge is a stay at home mom who is devoted to their three small children. Ray's wife, Beverly, is a licensed veterinarian and head of a small animal practice in a town of 40,000 about 30 miles from where they all live. She employs two other veterinarians and a number of assistants. There is sometimes a bit of rivalry between the brothers, Randy having been the older and more athletically inclined when they were growing up. Ray often felt a subtle need to demonstrate that he was just as talented as Randy. Ray lives in a large new home he recently built in the small farming community where they live. His wife drives a Buick Park Avenue and he has a full size Dodge truck with 4-wheel drive and a nice topper. Randy and his wife live in the home in which he grew up, about four miles from town. They have a fairly new Ford Taurus and an old, but reliable, pickup Randy has been driving since they got married. This past winter, Marge, developed cancer in her uterus. It was caught fairly soon, but required a hysterectomy and then an extended period of chemotherapy. Randy and Ray both have health insurance as employees of the coop, but Randy chose the plan with a high deductible and a fixed payment for certain treatments and procedures. He and Marge felt things were really tight at home and they could risk the chance of any major medical episode, given they were both young and in good health. When Marge's chemo-therapy made her quite ill for a few days after each treatment, Randy and Ray decided it would be okay for Randy to work from home a few days a week to help take care of her and watch the youngest child. He moved a computer from work to home and found it was a reasonable solution for them. Randy was in the process of selling 30 acres of the original homestead that were closest to town to a firm that manufactured steel buildings. They were planning on using some of the property for the manufacturing buildings, some for storage, and hoped to sell the rest to an affiliated firm. Randy wanted to sell the whole thirty acres to one buyer so as not to break up the piece into undesirable units. The medical bills for Randy and Marge were much higher than they could cover from savings. Randy had already mortgaged the family home to buy the car, remodel the living room, add a screen porch and replace the roof. He had also used some of the money so that he and Marge could accompany Ray and Beverly on an Alaskan cruise hosted by Ray Klein the previous summer. It was a very expensive trip, but they had a great time and the high school girl they hired to tend the children was not too expensive. A few months into the chemo-therapy Randy realized that

they could not pay all the medical bills, the mortgage, the credit card debt from the new entertainment system and video equipment, and still cover food and clothes for Marge and the kids. The local bank would not give him a great rate on second mortgage because of his heavy credit card debt. He wasn't too worried; however, as he knew as soon as he sold the property he could pay off all the bills and be in really good financial shape. The negotiations drug on really slowly and Randy got into a real bind. He knew that the coop was doing well and there would be a large patronage dividend this year. He figured he could pay the doctor for this month and make a partial payment on one of the credit card bills from the coop account and then pay it back when he sold the property. Given the dividend would come at the end of the year and he could easily divert some revenue from the accounts receivable and not create any concerns by year end auditors, he started to show larger accounts receivable and lower cash balances that were actually the case. He used the extra cash to make payments for July and then August and then September. Ray proposed that the two couples take a couple of weeks off in late October and go to the Cayman Islands to celebrate Marge's clean bill of health. Randy had no money for such a trip but hated to disappoint the others. So he just delayed some payments for grain purchased and figured out a way to siphon the funds off to pay for the trip. The land deal was ready to close any day and he would be able to get everything back in order right after they returned from the vacation. They had a wonderful time. The day after they got home Randy called the attorney to find out the day on which they would close. He said, "I'm sorry, the firm has run into some financial difficulties. Apparently an accountant was using funds to run some type of investment scheme and lost three or four million dollars. The firm may go bankrupt. They are no longer interested in the property. And by the way, the auditors have scheduled us for a preliminary audit in December this year; they have a big project for early January and want to get as much of our firm done as possible before the end of the year."

1. Make a list of ethical issues that arise in this case study.
2. Did Randy create an ethical dilemma for himself, or was he the victim of cruel circumstance? Present arguments for both positions.
3. Did Ray act in an ethical manner in this case study? Are there any of his choices that might be viewed as unethical by some? Can you make ethical arguments to support these positions?
4. Should one consider the nature of Marge's illness and the circumstances of her treatment in evaluating Randy's decisions? Would you think about this in a different way if Randy worked for a large multinational firm that exploited workers in third world countries and he was sending the money to Catholic Relief Services?
5. What are some of the resources that are limited in this case study? How does this resource scarcity affect the case?
6. Consider the following quote from of Chapter 1 of Beauchamp (p. 15).

People are often not rational, either in the management of their own affairs, or in the adjustment of their own affairs in relation to others. Then, finally, they are vulnerable to others, and dependent on others,

and yet invariably in competition with others; and, human sympathies being limited, they often neither get nor give help that is needed, may not manage to cooperate for common ends, and may be constantly liable to frustration or positive injury from directly hostile interference by other persons.

Discuss how this quote applies to this case study. Explain to the class how the ideas in the quote can help explain some the behavior in the case study.

## Case Study I-G

Isaac is a research vice president of a major pharmaceutical company. His company has been a key player in using biotechnology to develop new products. They developed one of the drugs used to slow the effects of AIDS. More recently they developed a drug slows the growth of cataracts. Their most promising new drug is an alternative to standard chemo-therapy or radiation for the treatment of ovarian cancer. The results of preliminary and clinical trials have been very promising. The FDA is getting ready to approve the drug for general use. They asked for one more set of clinical trials, just to make sure. The company was so convinced of the efficacy of the drug that they conducted 30% more trials than required by law, allowing more patients to receive this improved treatment without cost. The results from the last round of clinical trials are just coming in. As Isaac reviews them, he can't help but smile. The drug is performing even better than expected. Approximately 70% of the patients showed better progress than those using standard treatment, and none of the studies showed less progress. Side effects continue to be small; an occasional case of hives. As Isaac is looking over the last set of results to come, three different trials conducted at a hospital in the Bay area, he cannot believe his eyes. In one of the three trials, the effectiveness of the drug was lower than that of either chemo-therapy or radiation treatments in 65% of the cases, in some cases much less. Two of the patients had severe side effects, one nearly choking from a constriction of the windpipe. He immediately called Samuel Gunderson, the head of research at this hospital. Dr. Gunderson was also baffled. He said he would check things out and make sure there was not mistake in transcribing the results. He called back the next day. The protocol had been followed exactly in all three trials. The same reliable physician's assistant had been involved in administering all treatments under the supervision of two senior members of the medical staff. There did not seem to any way to explain the strange results. Dr. Gunderson said he would do so more checking. He called back in a couple of days. All of the doses of the treatment had been supplied by the hospital dispensary using carefully monitored procedures. All of the doses had been prepared by one of three senior members of the staff, all experienced, with outstanding records. He notice, however, that 60% of the doses for group 2 (the one with an inexplicable results) had been prepared by Lee Guidry, the head of the pharmacy department. He joked with Isaac that maybe his bifocals weren't working as well and he thought. They both fell silent on the phone. Could he perhaps have mismeasured some doses due to a shaky hand, or simply not reading the numbers clearly? Dr. Gunderson decided to probe some more. He could find nothing to indicate that any procedures had been abrogated, and noticed that Dr. Guidry had recently passed a physical with an eye examination. He still suspected something was not right, but had no way to verify it. He then decided to check the unused portions of the drug against the dosage charts. Was more or less of the drug left in the bottles than should have been? This was a great idea in theory; not so good in practice. A fairly new lab technician had accidentally disposed of four bottles of the drug that were less then  $\frac{1}{4}$  full early on in the experiment. No one was particularly concerned as he disposed of them in the medical waste bin and there was no danger to anyone from this action. He called Isaac back. They talked and did

not know what to do. They both had a sense that the trial was botched and the data flawed, but had no way to prove it. If they reported these results, this one severe anomaly would surely cause the FDA to require one more round of tests. This would likely take 12-18 months to complete, and this life saving drug would have to remain off the market due to a silly mistake by an aging pharmacist. Given that they had done more trials than the FDA required, they wondered about just not reporting this particular case so as to get the drug to market sooner. They were completely convinced by the evidence that it was efficient and safe.

1. Make a list of ethical issues that arise in this case study.
2. Could this firm have taken any preventative actions that might have prevented this ethical dilemma? Discuss whether any of these make sense.
3. Did the firm do all it could to determine if there had been a mistake in the dosage? Why might they not want to consider some ways to validate their suspicions?
4. Consider the position of an FDA regulator and that of a woman with ovarian cancer. Write a paragraph or two outlining arguments these two individuals might make about the ethical decision for the firm to make.
5. Does limited rationality apply to this case? Would Isaac and Dr. Gunderson be doing what is best if they suppress the test results? What long run issues might they be missing?
6. Explain how a utilitarian might determine what is the ethical action in this case? Is this a reasonable approach to this problem?

## Case Study I-H

Jack Palmer is a purebred swine producer. He has one of the best Duroc herds in the US. Animals raised from his stock regularly win state and national barrow shows. Some of his best lines are partially inbred. He sells many of his boars for \$1,000 or more. The best ones are not sold but used for artificially inseminating his own sows and gilts as well as for supplying semen to a respected swine genetics company for sale to buyers all over the world. Jack has noticed that over time, a number of his own gilts seem to have more inverted nipples than in the past. The increase is very small, too small to discern if he were not around such a large number of them on a daily basis. The boars never seem to manifest this trait. He wonders if one of his bloodlines has developed a genetic tendency for this trait, but clearly does not have enough data on his own hogs to conduct any meaningful statistical test. And certainly none of his customers have ever reported any problem. He wonders if he should consider contacting a large number of his customers and ask them to provide data for some type of statistical study. Given the hassles involved with such an effort, and the potential loss of sales from raising the issue, even if there were no statistical evidence of a problem, he decides against this course of action. Jack's son Dick is a student at a nearby veterinary college who has an undergraduate degree in animal science. Dick obtained the DVM degree two years ago and is now working on a PhD. One weekend when he is home helping with cutting a bunch of boars that got missed in the farrowing house, he mentions to his dad that his major professor is working on a project to see if there is a difference in the makeup of a particular gene between gilts which have a tendency for prolapsed rectums and those that do not. He thinks he may have identified an abnormality in the sequence of nucleotides in the ones who have the problem with prolapses. If this is the case, there may be some way to test both the boars and sows and see if they have this abnormality before using them for breeding purposes. Dick's PhD dissertation will focus on the relationship between the presence of this genetic string in a boar and/or the sow and the probability of it being passed on to their offspring. He explains to his dad that this may one day allow them to test every boar before it is sold, making sure that undesirable genetic characteristics are not promulgated in the population. Jack is impressed with all that Dick seems to know and feels good about all the tuition he has paid to Iowa State University. He imagines what a wonderful thing such a test would be. But he suddenly has a sick feeling in the pit of his stomach. "What if someone found a nucleotide sequence on a particular gene that was an excellent predictor of inverted nipples?" "Do I really want to have to test every boar and perhaps lose my whole market?"

1. Make a list of ethical issues that arise in this case study.
2. How might Jack determine if there is a potential problem with his bloodlines without having to conduct a large off-farm survey? He normally farrows 300 sows per year, most bred to four or five boars.
3. Write a paragraph or two outlining arguments on both sides of the issue of whether Jack should contact customers and start a large scale investigation of whether one of his bloodlines has a higher than normal percentage of inverted nipples.

4. Some swine producers do not really understand probability and risk very well. They tend to think of things in terms of, “yes she has it, or no she doesn’t”. Jack reasons to himself, “If such a test were available, I am not sure I would use it. I think it will be confusing to many producers and I will lose far more sales than justified by the empirical research and the genetic test.” People will needlessly loose out on the chance to get great breeding stock. Jack decides that if such a test were to be considered, he would lobby hard against its approval and would look for research casting doubt on its efficacy. Jack also starts reading newsletters produced by groups opposed to the use of biotechnology in the food chain. Is Jack taking an ethical position? What ethical arguments might you make to support or critique his position?
5. Does limited rationality apply to this case? If so, in what way? Does Simon’s concept of bounded rationality apply to this case?
6. What do you think would be the position of a court of law if Jack were to be sued by an individual claiming that he was sold breeding stock that was likely to produce offspring with inverted nipples? How would this depend on the statistical or genetic evidence available? If Jack were to lose the case, would he be justified in still arguing that he made ethical decision in the matter.

## Case Study I-I

GE-ed corn sparks regulatory concerns  
<http://www.twinside.org.sg/title/sparks.htm>  
by Danielle Knight

Washington, 24 Oct 2000 (IPS) -- The recent US recall of taco shells and flour containing a variety of corn not approved for human consumption is sparking concerns about whether US regulations are adequate to keep genetically engineered products segregated from conventional ones in the food supply.

Federal regulators say that millions of bushels of StarLink corn, a genetically modified variety approved only for animal feed that was found in taco shells in September, have made their way into the human food supply.

Several grocers have pulled certain corn products, like tacos and flour, from their shelves because they have been found to be contaminated with StarLink, developed by the French pharmaceutical giant Aventis. The corn was not approved for humans because of fears it might trigger allergic reactions.

While the Food and Drug Administration (FDA) has launched an investigation to determine how StarLink slipped into the food supply, critics say the episode calls the agency's regulations and monitoring ability into question.

"This shows that the Food and Drug Administration's regulations are ineffective," says Matt Rand, spokesperson for a coalition of seven US environmental groups, called Genetically Engineered Food Alert, which first detected the unapproved corn variety in taco shells.

StarLink corn contains a protein which acts as a pesticide, killing the dreaded European corn borer. The modified variety of corn was grown on less than one percent of US corn fields this year, according to Aventis, which is trying to buy back as much of the corn as possible.

Since most European countries, including Britain, France and Italy, prohibit the sale of foods containing biotech ingredients unless they are clearly labelled, the StarLink contamination has provoked concerns that bioengineered grains could get into exported food.

"What this whole discussion throws up is whether ... the US system is working," said John Richardson, deputy chief of the European Commission delegation in Washington last week. He said that part of the basis on which US genetically modified products are exported to Europe is the understanding that the US has the ability to distinguish between non-approved products and approved products.

According to Larry Bohlen, director of Friends of the Earth's health and environment programme, the coalition is now testing products from other countries to see if StarLink or other genetically modified ingredients are present. "It is really only a matter of time before genetically engineered

ingredients are found in exports which are supposed to contain only non-modified food," says Bohlen.

Last week, the coalition of environmental groups, which includes Greenpeace, Friends of the Earth, Public Interest Research Group and the National Environmental Trust, sent letters to 30 major US food makers asking them what safeguards they are using to ensure that the StarLink corn is not in their products.

While Bohlen told IPS that none of the companies have responded to the letter, several companies, including ConAgra Foods and Kellogg Co., have reportedly been forced to suspend operations at plants to test for StarLink.

Jack Kennedy, spokesperson for Heinz, a major US food manufacturer, says the company is testing for the modified corn in all its foods and so far has not found any.

Earlier this year Heinz banned all genetically modified ingredients from its line of baby food. But for many of the processed foods it produces, Kennedy says, it is difficult to avoid using genetically engineered grains. "Sometimes it is virtually impossible to make a distinction," he told reporters.

Tyson Foods Inc, the country's largest poultry producer, announced last week that it has stopped feeding its chickens with StarLink corn because of consumer concerns. The Arkansas-based corporation is the first to stop the use of StarLink as an animal feed. "This is basically a precautionary move to avoid confusion among consumers," Ed Nicholson, a spokesperson for Tyson Foods, told reporters.

Environmentalists are pushing for labelling regulations here which are similar to those in place in Europe, arguing that not enough is known yet about the long-term effects of genetically modified food.

Agribusiness and biotech industry groups oppose tighter regulations, arguing that US policy recognises modified foods as safe and no different from traditional products.

During the first week of October, a federal judge upheld the FDA's policy on genetically modified food, throwing out a lawsuit filed by biotechnology opponents that sought to require that such foods be labelled.

Trying to calm worried consumers, the FDA has released proposed guidelines for companies which wish to voluntarily label their products. But environmentalists argue that this proposed policy means the FDA will not require any mandatory testing on genetically engineered food.

"Consumers will still be the guinea pigs testing the safety of these foods," says Andrew Kimbrell, executive director of the Center for Food Safety, a Washington-based advocacy group.

1. Make a list of ethical issues that arise in this case study.

2. Write a paragraph or two outlining arguments on both sides of the issue of whether it was reasonable for the FDA to approve Starlink for use in corn fed to livestock.
3. Are companies which sell products made from genetically modified organisms ethically obligated to disclose this fact on the labels of the products? Would this be different if it were plant DNA in plants versus animal DNA in plants?
4. From an ethical perspective, what are reasonable safety levels for products that contain potential allergens?
5. What is the ethical responsibility of individuals who oppose the use of genetically modified organisms in food products when making a public case for their views?
6. What is the ethical responsibility of pharmaceutical companies to make it known to the individuals who are treated with their vaccines or drugs that these products may have been created using genetic engineering? What types of labeling should be required? Should the administering physician be required to state this orally?

## Case Study I-J

John is a hog farmer living in eastern Iowa. He purchases feeder pigs from two or three local farmers who have farrowing units. He feeds the pigs in a 24' x 56' building of pole-frame construction housing a total of 168 pigs in seven pens. With alleys and such, each pig has just under 7 square feet of living space. The floors are partly slotted with 10' of slats in each pen running the width of the pens. The storage pits are 8' deep. All the feeder pigs that John purchases have their teeth clipped and tails docked within the first week. All males are castrated at least one week prior to weaning. The buildings are partially open on one side and are well ventilated using fans. Ammonia gas is not a problem. John's twelve year old son Billy usually helps his dad with the hogs in the evenings and on weekends, filling feeders, cleaning out waterers, moving pigs, treating sick animals (holds the syringe while Dad catches the pigs), and so on. Last week Billy had a special guest speaker from the Humane Society of the United States during science unit at school. The speaker said "Factory-farmed pigs raised for meat undergo painful mutilations---including castration and tail docking---without anesthesia. For six months, they are fattened in overcrowded, filthy sheds or pens." Many of the kids in class horrified to learn that pigs were cut and chopped with no pain killer. They also thought the tailless pigs looked silly.'

When Billy got home from school he asked, "Daddy, are our pigs chopped and sliced without a shot to make them numb. And Daddy, are our pens overcrowded? The pigs seem happy to me."



Billy's father started to explain about the painful problem of tail biting when pigs are raised in confinement units. Billy then asked, "But what about pigs running around in the pasture, do they bite each other's tails?" Dad started to explain about the relative efficiency of confinement versus pasture finishing when Billy asked, "And why do we cut the pigs testicles out, I don't think I would like that very much if you did it to me."

1. Make a list of ethical issues that arise in this case study.
2. What are some of the premises likely chosen by the speaker at school.
3. What are some potential moral principles that would argue against tail docking or castration?
4. What about space in the pens?
5. What are some premises that might be suggested by the National Pork Producer's Council in regard to the moral standing of hogs?
6. What constitutes humane treatment?
7. Make an coherent argument that tail docking is a humane practice.