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Stress on the Farm – Farming and Fatigue

Michigan State University Cooperative Extension Service

North Central Regional Publication

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Farming and Fatigue

Farming has always been a physically demanding occupation with a high potential for accidents. This is partly due to the complex machinery and unpredictable livestock. Another reason is the fatigue caused by long hours, demanding work, and time pressures.

Cause of Fatigue

Fatigue is defined as a condition of the cells or organs in which, through over-activity, the power or capacity to respond to stimulation is diminished or lost. Simply put, farmers' bodies are like a bank account; when they spend more energy than they take in, they overdraw the account.

To understand the mechanism of fatigue, both physical and mental, think of the body as a large heat-producing furnace governed by a thermostat in the brain. As far as physical fatigue is concerned, scientists know that body chemicals and hormones can set the thermostat higher or lower. Inadequate fuel for the furnace, in the form of weak muscles or poor blood circulation, causes the alarm center in the brain to turn off the heat, or energy production, sooner than wanted, which leaves you tired.

From a mental standpoint, excitement or determined will power can move up the thermostat, allowing greater production of energy and less fatigue. On the other hand, anxiety, fear, or depression appear to set the thermostat lower, reducing the needed energy and leaving you tired before you ever start to work.

For a surprisingly long time, a tired farmer may do as good a job as one who is rested simply by calling on will power to keep the thermostat at a high

level. But finally, after prolonged over-exertion of the body or brain, or both, the furnace's heat production quits. Body movements, usually smooth and coordinated, become awkward; mental confusion begins; emotions become unstable. When fatigue starts to nibble on the nerves, the whole personality of the tired farmer changes.

Fatigue in Farmers

Doctors report farmers' fatigue falls into three categories:

Physiological fatigue comes from chemical reactions in healthy people that leave the muscles exhausted. Lack of sleep, loud noises, poor working conditions, or extreme temperatures are typical causes.

Pathological fatigue, when chronic, is an early sign of an underlying illness such as heart defect, hypertension, or anemia. In many diseases, such as diabetes, fatigue is often a clue.

Psychological fatigue, or "nervous" fatigue, is usually caused by mental factors: frustration, difficult decisions, conflicts, delays, or even boredom.

The following factors may account for fatigue among farmers.

Environmental Conditions

Work conditions such as noisy machinery, long periods of standing, poor ventilation in cabs, and inadequate lighting (common occurrences during planting and harvesting) increase strain and force farmers to put out greater energy to concentrate on what they are doing.

Inadequate Sleep

Also common during planting and harvesting, inadequate sleep may be due to very long work hours, insomnia, or improper room temperature while

sleeping. (This makes the body work harder to keep itself comfortable.) Whatever the reason, the body is not given enough time to replenish the oxygen supply or rebuild muscle strength and you awake feeling as if you haven't even been to bed.

Poor Food Habits

Farmers who skip meals or eat unbalanced meals fail to gain the nutrition needed to build and maintain body tissue, produce energy, and conduct the many chemical functions of the body. They find that physical effort wears them out easily.

Emotional Upsets

Studies have demonstrated that a great majority of fatigue cases not due to illness or overwork are caused by emotional upsets. Negative emotions—depression, guilt, frustration, resentment—bring on tensions that reduce the body's energy and produce weariness. Anger, fear, or rage send adrenaline through the body, affect breathing, and make the heart beat faster. After the adrenaline has stopped, the farmer is left exhausted.



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Slowing Down Fatigue

Harry J. Johnson, M.D., has developed the following profile of people who suffer from chronic fatigue.

Health Habits

"Many people who suffer chronic fatigue have developed poor health habits. How do you rate?"

- When they eat:

They eat breakfast on the fly (under five minutes).

They bolt their lunch (under 15 minutes).

They hurry through their dinner (under 30 minutes) and a high percentage are on diets, nursing gastric disorders.

- In their recreation:

Few of those complaining of tension get some form of regular exercise.

Few have leisure interests (church, civic, etc.).

Many have no hobby at all.

One out of five gets no recreation whatsoever.

- For their rest:

Many average six or fewer hours of sleep at night.

Few have weekends free for family and self.

Their vacation time is 20 percent less than the overall average.

- In their smoking and drinking:

Most are heavy cigarette smokers.

Most have cocktails for lunch, and many drink more than two.

Many have more than two cocktails before dinner.

- In the drugs they take:

Most of them use sleep-inducing sedatives.

Most of them quiet their nerves with tranquilizers.

If overly tense people can make a shift in health habits, that may be all that is needed."

In the Field

A 1975 Iowa State University study of accidents in farm families found that (1) most accidents occurred during mid-morning and mid-afternoon; (2) most accidents occurred during May and August; and (3) Saturday was a high accident day. These are periods when the most work is done and fatigue is more likely.

Take a break

Factory workers have found that rest periods actually help increase production over the work day. So:

- Plan rest breaks during mid-morning and mid-afternoon.

- Eat an energy producing snack while resting.

- Take a 10-minute break. A short rest (two minutes) may not be long enough for the heart to slow down and the body to regain strength.

Reduce accidents

During peak periods, extra long work days are part of the job. Safety engineers feel that as the working day is lengthened, the accident rate increases in greater proportion than the increase in hours worked. Steps should be taken to lessen the risk of accidents.

- Limbering-up exercises prior to beginning heavy or long sustaining work increase blood circulation and oxygen level and raise muscle temperature. This has the effect of delaying or reducing fatigue in the farmer.

- Change positions while in the cab. A person who sits or stands too long grows tired because of poor circulation. When remaining absolutely still, blood circulates slowly and not enough blood can get to the brain. While in a seated position, try lifting the body about a foot off the seat using only arms and shoulders.

- Shoulder shrugs are helpful in relieving upper chest or shoulder tension. With hands on the steering wheel, raise shoulders up to the ears, hold, then drop back to normal position. Repeat as needed.

- When at the end of the row, stand up, take a couple deep breaths, and stretch for a few seconds before turning.

Sleeplessness Increases Fatigue

An obvious change in modern day farming is the increase in complex decision making and mental work required. One of the worst features of mental work is that it keeps a person in a state of excitability late into the evening, preventing sleep. Just as insomnia is a common sign of fatigue and excessive tension, it also causes more activity with resulting fatigue. A vicious cycle is set up in which sleeplessness is caused by mental activity. With a loss of sleep, mental activity intensifies which leads to more insomnia.

Simple Tricks to Induce Sleep

Habits are as hard to form as to break; so if selecting one trick worth trying, put it into practice for at least ten consecutive nights before discarding it as useless.

- Prepare for sleep by slowing down the thinking for half an hour or more before retiring. For example, play a game of checkers. Write a letter to a friend. Plan a vacation.
- Take plenty of time to get ready for bed. Don't expect to come right from the field or a heated discussion, all wound up, and tear off the clothes, jump into bed, and fall right to sleep. Get clothes ready for the next morning. Take a leisurely bath. Brush the teeth especially well. (How foolish this must seem to people who have no difficulty falling asleep. But these suggestions were not written for them.)
- It's unwise to stimulate your mind before bed. If you are quite sleepless but like to read in bed, choose non-

fiction and a "hard" book. Force the mind to grapple with difficult facts. Bore it into unconditional surrender to sleep. (For hard workers who wish to rest the body while "improving" the mind, no device is better than lying on a couch with a good book.)

- Have you noticed that, just as the mind loses consciousness and drifts into sleep, thoughts become scattered and jumbled? That idea leads to another technique for inducing sleep. Make the mind hop from one idea to another. Start with some happy event in childhood: remember making cider in the old grinder on the back porch, with juice dripping through the gauze wash cloth into an old pail. Jack was there. He was the one who told you to throw in the rotten apples too. I wonder where Jack is now. Jack got married—moved to Colorado—that sure was fun camping in Colorado last summer—water was so cold and blue—blue is the perfect color to paint the bathroom—you are asleep.

- More relaxing than a shower and less dangerous than tranquilizers is a warm bath before bed. It should not be followed with a rub-down. Instead the body should be patted dry so that you get into bed a little damp and chilly. Then, as the surface is warmed, the whole body becomes more and more comfortable. If, during the night, you become sleepless, throw back the covers and remain uncovered until the surface again becomes chilly. Then, when the covers are pulled up again, the body sinks into coziness and comfort.

- The last of the tips for bringing on sleep may be the most important. It happens to be the most demanding, however, and only a very determined seeker of sleep will select it. Sleep taken before you are tired is the most restful and efficient. Become rested before trying to sleep. Get into bed an hour or more before the regular time. Do so night after night, and finally you will find yourself building up a reserve of rest and falling to sleep without struggle.

Hans Selye, a pioneer in stress research, feels that when deep fatigue hits, give in! Even though you think you can't stop in the middle of work or you have deadlines to meet—you should stop. Fatigue signals, if ignored, will defeat you in the end.

Fatigue actually is not all bad. It doesn't change a farmer's ability; it just diminishes it temporarily. If symptoms of fatigue are recognized and acted on, fatigue can be a valuable learning tool. It teaches you how much to expect from yourself, what the signs of strain are, and what to do about them. But it's up to the farmer to be always alert to the cause and control of fatigue.

Other publications in the **Stress on the Farm** series include: NCR-192a, *An Overview*; NCR-192c, *Team of Experts*; NCR-192d, *Exercise for the Health of It*; NCR-192e, *Skills for Stress Management*.

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