

2023

## PRESS RELEASE

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### FOR IMMEDIATE RELEASE

*By UNMC, Central States Center for Agricultural Safety and Health, Omaha, NE*

### PROTECT YOUR BRAIN FROM STRESS

*Manage stress to reduce its negative effects.*

Stress is the body's reaction to any change that requires an adjustment or response. It creates chemical reactions in our bodies, releasing cortisol, thickening our blood, increasing blood pressure, and more. If stress becomes long term, it can lead to the brain protecting itself by shrinking.

Michele Payn, a lifelong Holstein breeder and avid Spartan fan, lives on an Indiana farm with her city slicker husband. She has raised millions of dollars for FFA and 4-H, worked with farmers and ranchers in more than 25 countries and built a business to serve the people of agriculture over the past 22 years. She has authored three books – "Food Bullying," "Food Truths from Farm to Table," and "No More Food Fights." Payn has earned the Certified Speaking Professional designation given to only 900 people in the world. Her main presentation and writing activities focus on helping normalize conversations about stress, which she notes is a part of agriculture.

"The overriding function of our brain is to help an individual thrive and survive," Payn says. "No matter what region of the world we're from, when we're stressed out brain function can be different when we're stressed-out. Protecting our brain should be a priority for all of us."

Payn points out that suicide rates in rural youth are twice as high as their urban peers, 2022 U.S. suicide death rates increased by 2.6% from the previous year and were even higher in rural areas. Stress has overtaken weight as one of America's top health concerns.

"Stress happens whether we want it to or not," she says. "Our bodies experience physical, mental, and emotional responses to stress. Just saying we're fine and making up our mind to pull ourselves up by our bootstraps and move on won't work."

Neuroscience has demonstrated that stressed-out individuals use a different part of the brain when they make choices than their non-anxious counterparts. The portion of the brain activated for decision making in stressed individuals is less efficient than that of a less anxious person.

"Negativity bias also plays a role in stress," Payn says. "When problems occur, such as sick animals, adverse weather, poor crops, cognitive bias comes into play."

Cognitive bias is a systematic pattern of deviation from norm or rationality in judgment. Individuals create their own "subjective reality" from their perception of input/circumstances. An individual's constriction of reality, not the objective input, may dictate their behavior. In this way, cognitive biases may sometimes lead to perceptual distortion, inaccurate judgment, illogical interpretation, and irrationality.

Physical symptoms of stress may include headaches, tightness of shoulder muscles, sleeplessness. Unless these symptoms are managed and reduced, decision making may be affected.

Less obvious physical impacts include release of adrenaline to prepare muscles for exertion and cortisol to regulate bodily functions. Adrenal glands produce and release cortisol, which are hormones necessary to coordinate bodily functions by carrying messages through the blood to organs, skin, muscles, and other tissues. These signals tell the body what to do and when to do it.

Cortisol regulates the body's stress response, helps control metabolic functions, suppresses inflammation, regulates blood pressure and blood sugar, and helps control the sleep-wake cycle. When levels become higher than normal, there is a risk to our health. Unrelieved cortisol levels can lead to heart attacks, strokes, diabetes, deterioration of the immune system, and more.

“Scientists have learned that if parents haven’t learned how to manage stress, it’s likely that their children and grandchildren will be predisposed to not use stress management either,” Payn says. “In the farm community, stress has been ignored for generations. Our challenge is to figure out how to do this better for our children and future generations.”

In the farming community, scenarios that can heighten stress include long workdays, working in isolation or working with family. Paperwork, market swings, equipment breakdowns, weather, and employees are all among the factors that can trigger excess stress.

“Loss of identity is a major factor in agriculture,” Payn says. “Many farmers and ranchers believe they are born to be farmers or ranchers. We are born as human beings. What we do isn’t who we are.”

Social signs of excess stress may include not eating, not sleeping, social withdrawal, agitated body language, always being tired, or loss of purpose.

“If you notice someone’s appearance has changed, that they were once neat and organized and now they’re disheveled and see irritable and anxious, say something,” she says. “Be aware of the people around you who are vulnerable to stress. Learn about ways to have a conversation about stress levels in their life.”

Some basic ways to help relieve stress and lower cortisol levels include taking a 15-minute break and doing something entirely unrelated to work. Exercising for 20 minutes three times per week can greatly help lower cortisol levels.

“The acronym S.M.A.R.T. can help us remember basic protective factors to reduce stress effects on our brain,” Payn says.

**S:** Sleep is essential for rational decision making. If you’re not sleeping well for more than two weeks, see a physician.

**M:** Moving is critical to helping reduce stress effects. Exercise 20 minutes three times per week to obtain the benefits.

**A:** Ask your food. Animal nutrition is hugely important in the agricultural sector. What we eat directly influences emotions and brain function. Seek a registered dietitian for nutrition specifics.

R: Rest can take on many forms. This isn't the same as sleep. Rest includes activities such as hanging out with friends, getting away from the farm or office. Distance provides perspective. A rested brain makes smarter choices.

T: Train your brain to change negativity bias. Think positive and laugh 15 times per day, which immediately lowers cortisol levels.

"We can quickly evaluate problems in our animals when they're sick," Payn says. "Downcast, eyes, turned down ears, all symptoms that the animal isn't well. We need to keep an eye on each other and know how to recognize excessive stress."

***Funding for this educational article comes from the Central States Center for Agricultural Safety and Health and the University of Nebraska Medical Center.***