

I'm Tired of These Long Nights!

AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

One of the things that I hear from a lot of people this time of year is that they are either tired of the sun going down so early or that they really don't like the long nights. Unfortunately that's just part of the joy of living in these latitudes. You could live further north and it would be worse. Fargo, ND is currently having just 8 and a half hours of sunlight right now! I find that there are many misunderstandings about daylength, and by daylength I mean length of daylight during the day, as well as sunrise and sunset. So let's examine some of the intriguing facts surrounding this dreary time of the year.

The winter solstice, that official start of winter, is the shortest day of the year. For Junction City that means that on December 21st we will have 9 hours 25 minutes and 35 seconds of daylight. December 22nd will be about the same and then we start gaining day length again. It may not seem like much but by December 31st will already have gained three minutes of daylight over just ten days earlier.

If you remember astronomy from some elementary science class, or even from just looking at a globe, the earth is tilted 23.4 degrees on it's axis. Over the course of a year the earth oscillates around a fixed point. In the summer, even though we are further away from the sun, the rays of the sun are hitting the northern hemisphere of the earth more directly which, along with longer daylength, account for the higher temperatures. In the winter we are several million miles closer to the sun, but the sun's rays are hitting us at a flatter angle and the days are shorter. Hence the colder temperatures. The easiest way to note this is by how high or low in the sky the sun is at mid-day.

All of these wobbling rotations and tilted axis add up to the simple fact that there isn't perfect unity between sunrise, sunset, or the shortest and longest day of the year. From December 4 through December 11 we are experiencing the earliest sunset of the year, 5:04 p.m. Starting on December 12th the sun will be setting later even though we haven't reached the shortest day of the year just yet. We still have 3 minutes of daylight we need to lose.

Quite simply, even though sunset is starting to occur later, sunrise is also occurring later but at a faster rate. From December 12th to December 21st sunrise is delaying faster than sunset is accelerating. Here's where it get's tricky. Sunrise will continue to occur later clear up until January 10th. But after the 21st, sunset is getting later faster than sunrise is getting earlier which is why the days then start to lengthen. Once we get past January 10th and have both sunrise and sunset working in favor of more daylight we start to really see daylength accelerate. By the end of January we are gaining two minutes of sunlight a day. From the first of February to the end of February we will have gained over an hour of daylight. By the spring equinox, March 19, 2020 we will already be slightly past 12 hours of daylight.

Obviously weather, especially temperatures, are strongly tied to the directness of the sun and daylength, but there is a lag of several weeks. The coldest day of the year, based on long term local average temperatures is January 4th. The hottest day of the year is nearly a full month after the longest day of the year. Again, looking at average temperatures, July 18th is the hottest day of the year. All of this is fascinating, to me anyway, and I love to talk about it because it's about all we can ever do, as you're not going to actually do anything about daylength or the weather!