

## Oh Those Long Winter Nights

AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

Every fall as we approach the change from daylight savings time back to standard time I hear a plethora of griping about time change and long nights and late sunrises and early sunsets, blah, blah, blah. I think much of it is the fact that the sudden one hour shift just brings to realization more quickly the slow progression to the depths of winter. Ironically, I seldom hear people joyously proclaiming the lengthening days as we head in the other direction.

What I have discovered, over the years, is that most people think that the sunrise and sunset grow closer together in a uniform fashion until December 21<sup>st</sup> when the sunrises become earlier and the sunsets later. In reality it doesn't quite work that way. The earth is on a permanent 23½ degree tilt. It then slowly wobbles around on that axis and that is why we have the changes in daylength that we do. But it also means that sunrise and sunset does not necessarily change at the same rate.

For Junction City, the earliest sunset of the year occurs from November 30<sup>th</sup> thru December 13<sup>th</sup>. It sets at 5:05 on all those days. Then, starting on December 14<sup>th</sup>, sunset starts occurring a little later, slowly but surely. On December 21<sup>st</sup>, the shortest day of the year, sunset has already backed up three minutes to 5:08 p.m.

Sunrise is another story though. On December 21<sup>st</sup>, sunrise comes at 7:43 a.m. It continues to get later, slowly, up through early January (3<sup>rd</sup> thru the 7<sup>th</sup>) when it is at its latest which is 7:47 a.m. On the 8<sup>th</sup> of January we start going the other way and sunrises will slowly start to occur earlier. So the earliest sunset and the latest sunrise do not occur on the same day. In fact they occur roughly three weeks apart from each other.

Probably by now, everyone is thinking, "But I was always told that the first day of winter was the shortest day of the year." Well, the start of astronomical winter is that day when the sun is lowest on the horizon in the northern hemisphere and is also the day with the shortest amount of daylight during the year. So it is the shortest day. But not by much. We have several days in a row that only have 9 hours and 25 minutes of daylight. Last month the 21<sup>st</sup> and 22<sup>nd</sup> basically had the same amount of daylight. For those of you looking for summer and the longest day of the year, that will be June 20<sup>th</sup> when we have 14 hours 54 minutes of daylight. There are about ten days right around that date that have nearly equally long amounts of daylight.

Because of the tilt of the earth, sunrise and sunset changes are offset. But even though sunrise doesn't start to occur earlier until January 8<sup>th</sup>, sunset is occurring later enough to start giving us longer days shortly after the winter solstice on December 22<sup>nd</sup>. Many folks may not realize it but already by the end of January, we are having over 45 more minutes of daylight than we did on December 22<sup>nd</sup>!

Temperatures tend to follow these amounts of daylight, obviously, as the lengthening days also puts into a more direct path of sunlight. But it doesn't happen instantly, there is a lag. Historically, our coldest day of the year is January 9<sup>th</sup> or about the time sunrise starts to occur earlier. Our hottest day of the year shows a similar lag time, occurring around July 18<sup>th</sup>, nearly a month after our longest day of the year.

So while it may not yet feel like it, the days are already getting longer. But you've got another few days to wait before the weather gets warmer, on average!