The historical causality between increased agricultural mechanization and reduction in farm labor is a well-known relationship. The reduction in both family and hired farmworkers on U.S. farms from 1950 to 2000 is presented in Figure 1. In 1950, the nearly 10 million farm labor force was composed of 23.5% hired farm workers. In 2000, the last year this data was available, farm labor had reduced to 3.19 million workers and was comprised of 35.4% of those workers being hired. The reduction in total farm workers and the trend of reduced farm labor and a relative increase in hired farm labor appears to have stabilized during the 1990’s.

The contemporary inaccessibility and expense of farm labor are two factors that are influencing the continued adoption of labor-saving technologies in many of the ag sectors. The inaccessibility of farm labor has also been a driving factor in the steady increase of farm labor wages. The hourly wage rate for crop, animal, and all-ag producers in the Northern Plains region (Kansas, Nebraska, and the Dakotas), along with the national nonfarm wage and the Nebraska minimum wage from 1995-2022 are presented in Figure 2. Since 2010, wage data from the USDA Farm Labor Survey has only been available on a regional basis.
Examining wage rates between Nebraska and the Northern Plains regions from 1995 to 2009, showed that Nebraska farm wage rates were comparable to the Northern Plans region, with the average farm wage rates being $8.76 and $8.82 per hour, respectively, over that period. A few things to note from Figure 2. First, the U.S. nonfarm wage rate has been an average of $6.13/ hour higher than the all-ag wage rate during this period, with the wage gap expanding over time. Second, the crop and all-ag workers’ wages have been quite similar and have outpaced the wage for livestock workers since the mid-2000's. Since 2018, the crop wage has averaged $16.51, and the livestock workers’ wage has averaged $14.93. Third, although agricultural workers are excluded from the Nebraska state minimum wage law, the reported ag wage rates have surpassed the Nebraska minimum wage since at least 1995, with the difference continuing to widen.

The nominal all-ag wage rate was converted to a real wage rate in 2021 dollars using the Consumer Price Index (Figure 3). The growth in the real wage rate has been relatively positive, with a noticeable decrease after 2013, and a loss in the real wage value in 2022.
In 2019, Nebraska ag producers paid a record $790 million for hired and contract labor, including non-cash benefits (USDA/NASS). Nationally, from 1995-2020, the hired and contract labor wage rate, including non-cash benefits, ranged from 8.4% to 11.10% of production expenses. The wages of crop farm workers tended to occupy a larger percentage of production expenses (13.35%), on average, than the labor bill for livestock producers (6.19%).

The number of hours worked per week by ag workers in the Northern Plains averaged 39, 41, 43, and 45 hours per week for January, April, July, and October, respectively, over the timeframe studied. Hours worked per week from 1995-2022 was quite variable year-to-year. The only long-term trend that was statistically significant was for January, where the hours worked per week significantly increased over the period 1995-2022 (Figure 4). Perhaps this trend occurred as farm and ranch owners guaranteed more consistent work throughout the year to maintain a viable workforce.

Given the continuing low unemployment rate in Nebraska, competition from the nonfarm employment sector will continue to put pressure on agricultural operations to provide more benefits and a higher real wage to attract the workforce necessary to maintain the farm sector. Increased technological advancements, such as driverless tractors and agricultural weeding robots, will probably be required to ease the demand for a dwindling ag workforce.

Larry Van Tassell
Department Head, Department of Agricultural Economics
Director, Center for Agricultural Profitability
University of Nebraska
lvantassell2@unl.edu