

## Improving Tracking of Agricultural Teacher Movement

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As we face continued secondary agricultural teacher shortages in California we need to develop a better understanding of teacher movement both into and out of the teacher corps. The California Summary of California Agricultural Teaching Opportunities & Placement Report (California Department of Education, 2006) contains positions announced and placements. The report is useful but it does not address the complexity of teacher movement in and out of the ranks of active teachers or teacher demographic data beyond gender and region. Since teacher ethnicity and experience are stable, gender change is the biggest demographic change occurring in the California teacher ranks. The number of female agricultural teachers is increasing since the entering rate of new teachers is 64% female, and female teachers only account for about 44% of all agricultural teachers (2006). Concern has been expressed that the increase of female teachers will adversely affect the teacher supply and the range of subjects taught. A methodology was developed to track teacher movement with more detail and enable trend analysis using the existing data collection system. The resulting analysis provides more insight as to the source of teachers and teacher movement. By disaggregating specific segments of teacher movement new research can be performed. The analysis also tracks developing trends. Previous reporting was limited to tabulation of a single year's data which could not account for which teachers left, moved, or reentered. It is hoped that by developing a stable data source additional research will be undertaken in this area.

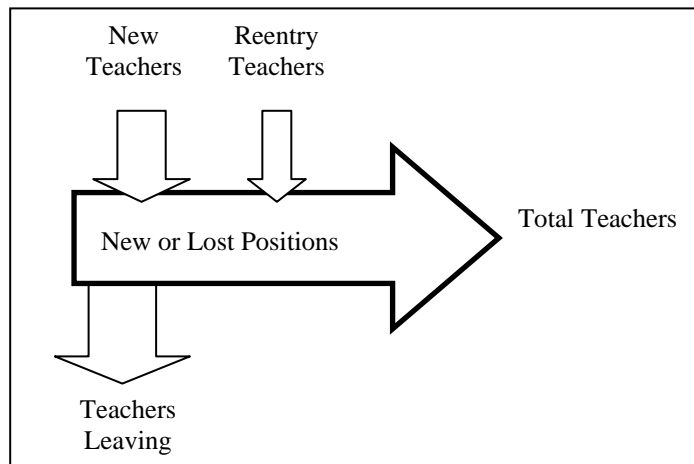
National Supply and Demand data (Camp 2002) has attempted to track the number of new teachers being trained as well as the number of teachers in positions but reported data has many errors which are likely due to either misreporting or incorrect tabulation at the state level. This study is not attempting to cover the supply (newly credentialed teachers) or the total demand (positions), but rather develop reliable data on teachers entering and leaving the professional ranks or changing schools within California.

### Methodology

Teacher demographic data was collected for the years 2000-2006 on teachers in the approximately 330 agricultural programs in California with the standard Department of Education form (R-2) using an online system that captured the data into a SQL database. Prior to 2000, data was reported on paper and summarized regionally. The data includes the teacher's name and demographic data (e.g. gender, ethnicity, school, years of teaching agriculture, courses taught). This data was processed to track individual teachers over the time period by linking teacher records between years. The major challenge of this analysis was reconciliation of misspelled names and name changes (female teachers). Once the data was cleaned an analysis was performed to determine which teachers were new teachers entering the profession (years of teaching = 1), which were reentering the profession (years of teaching > 1 and not teaching in the prior year), and which were leaving the profession (not teaching in the successive year). An additional analysis was performed to determine which teachers changed schools (defined as having taught at a different school the previous year).

## Results Summary

Over the period of 2000-2006 the percentage of male teachers decreased from 64 percent to 56 percent. On average (2000-2006) the 59 percent of the new teachers entering the profession were female. Reentry teachers made up an average of 34 percent of the positions filled (2002-2006) and 41 percent of these were female. Mean experience levels of reentry teachers and leaving teachers were 9.8 years and 11.1 years respectively. Many studies have been made of new teachers leaving the profession. For the new teacher cohorts entering 2000-2002 34% left the profession in three years and 44% left in 5 years. No significant differences existed between female and male teacher attrition in the time period. An average of 5.0 percent of teachers per year changed schools over the study period. The majority of these teachers moved to a school within the same geographic region. No migration trends were observed. Significant differences existed between genders in the types of courses taught. For example Agriculture biology was taught by 44 percent men and agricultural mechanics by 91 percent men in 2001 as compared to 40% and 86% respectively in 2006.



Annual Average Agricultural Teacher Movement 2001-2005

## Conclusions

Minor changes to the existing database have allowed for more complex analysis of teacher movement without collecting additional data. While some manual correction and inspection of the data is still required, this is a minimal effort estimated at 1-2 hours per year. The changes in the database now make extraction of teacher's names possible with attributes such as reentry, leaving, or moving possible which will enable further research. The data generated from this system is now consistent and can be compared from year to year. Now that teacher movement can be easily tracked additional research needs to be undertaken to determine why teachers move, leave, or reenter the profession.

## References

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