

---

# AGRICULTURAL JOB MARKET REPORT

---

OCTOBER - DECEMBER 2024

---

# Table of Contents

Author Information	1
Executive Summary	2
Job Postings & Openings	3
Job Trends	4
Salary	5
Description Analysis	7
Appendix	11
References	16

---

# AUTHOR INFORMATION

---



**JOSHUA STRINE**  
Graduate Research Assistant  
Department of Agricultural  
Economics, Purdue University



**DR. BRADY BREWER**  
Associate Professor  
Department of Agricultural  
Economics, Kansas State  
University

# EXECUTIVE SUMMARY

---

## ABOUT THIS REPORT

Purdue University's Department of Agricultural Economics started collecting data on agricultural job postings in the summer of 2021. This data is collected every four weeks from Google Jobs. Google Job's search engine pulls job postings from thousands of job boards. These job boards can be company-specific or common sites like LinkedIn and Glassdoor. Data on the agricultural job market extends from June 2021 to December 2024. The Agricultural Job Market Report analyzes the current state of the job market and discusses any recent trends.

## JOB TRENDS

Agricultural Job postings were collected 27 times between December 28, 2022, and December 25, 2024. On average, there are 2680 new job openings every four weeks. The number of new jobs has decreased every four weeks since August. With 1507 new positions, December had the lowest number of new job openings in the past two years. The number of total job openings has decreased since September 2024. Two-year minimums have been set in each of the last three months. As of December 25th, there were 2470 total job openings. From October to December, postings per job opening surged from 1.04 to 1.58. This is well above the two-year average of 1.07 indicating more aggressive efforts to fill positions.

## SALARY

On December 25, 2024, the average salary for agricultural jobs was \$59,266. This is \$1,500 greater than salaries in December 2023 and almost exactly in line with salaries in December 2022. In November, the average salary for agricultural job openings was \$62,396, the highest since January 2023. While salaries decreased slightly between November and December, they were still among the highest seen in the past two years. Average job salaries vary by location and position type. Remote jobs have higher salaries than in-person positions, and jobs in the Northeast pay more than any other geographical region. Lending and finance, economics, and academic positions are among the highest-paying job categories in agriculture.

## DESCRIPTION ANALYSIS

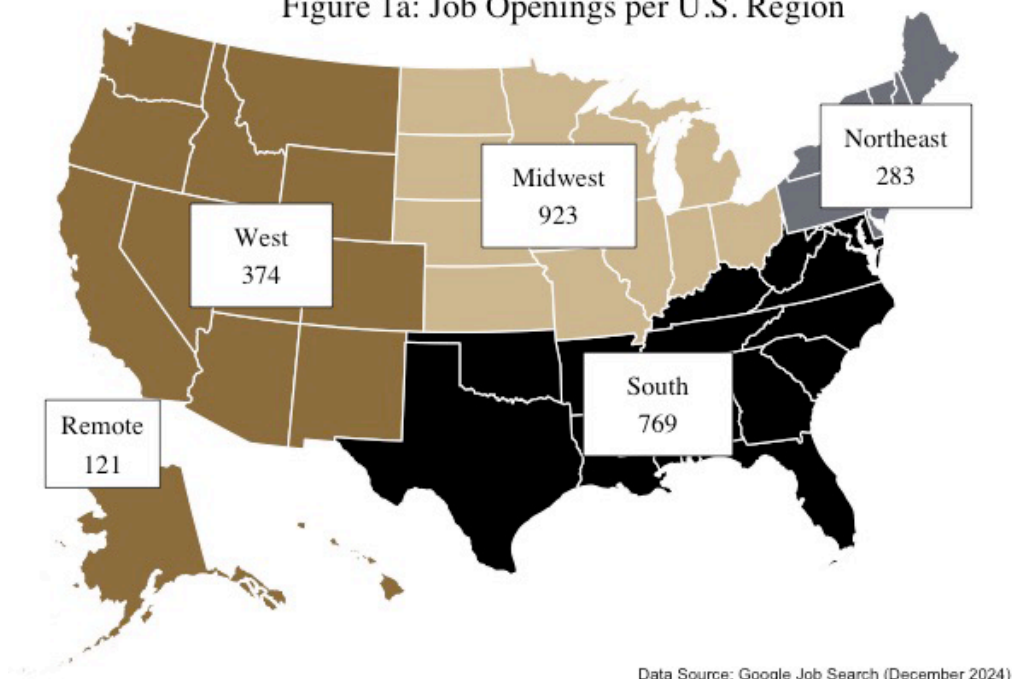
On December 25, 2024, the most common job types were natural resources, farming, and engineering. The least common job type was academic positions. Experience was the most cited job requirement in December, followed by communication and leadership. Internships made up 4.4% of new jobs in December. New internship openings peaked at the beginning of October, aligning with previous fall spikes.

# JOB POSTINGS & OPENINGS

In the report, "job posting" refers to any separate occurrence of a job advertisement for an individual job. Any representation of a single specific job opportunity of a company will always be phrased as a "job opening." Some companies have existing career pages on their website but continue to post to job boards, like LinkedIn and ZipRecruiter. Companies post to multiple job boards to cast a wider net for potential hires.

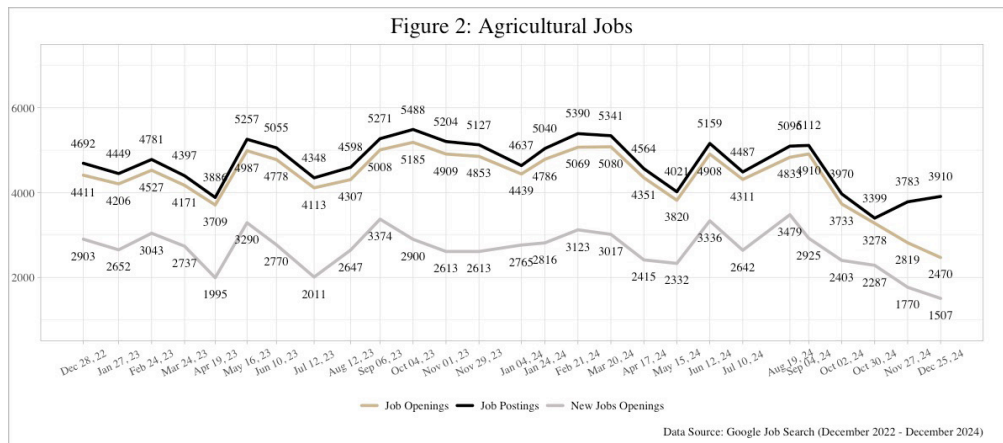
Figure 1a illustrates the number of job openings for each region of the United States in December 2024. Figures 1b and 1c in the appendix show regional jobs for November and October of 2024, respectively. There were 3910 job postings for 2470 job openings on December 25, 2024. The most job openings were in the Midwest, 923, while the fewest were in the Northeast, 283. There were 121 remote job openings in December. Job openings in all four US regions have decreased every four weeks since September. As a result, openings in all areas are at two-year lows. While remote job openings have decreased from the 2-year high set in September (200), they are still well above the two-year average of 91.

Figure 1a: Job Openings per U.S. Region



# JOB TRENDS

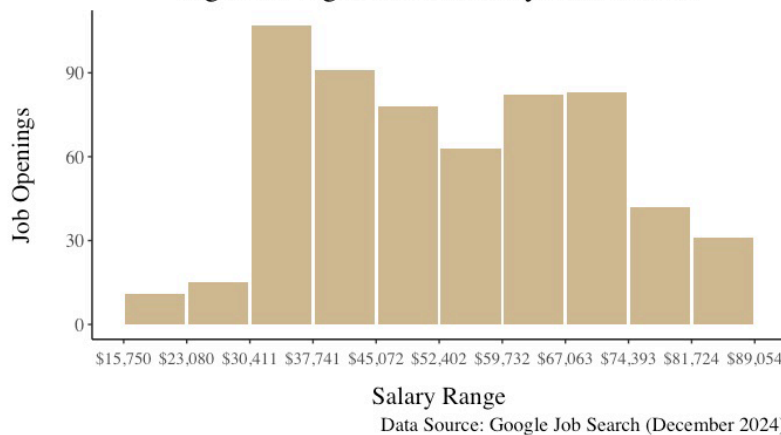
Figure 2 represents job postings collected every four weeks from December 28, 2022, to December 25, 2024. On average, there were 2680 new openings present every four weeks. On December 25, 2025, 1507 new jobs were collected. The average number of agricultural job openings over the past two years is 4369. For the December collection, there were 2470 total job openings. New and total job openings have hit two-year lows following three months of decrease. In the last two months, there has been a sharp increase in the number of job postings per opening. Before November, the number of postings per opening was between 1.03 and 1.07 for the previous 24 months. In November and December, postings per opening increased to 1.34 and 1.58, respectively. While fewer positions are available, companies are more aggressively trying to fill the positions through additional postings of their open positions.



# SALARY

On December 25, 2024, the average salary was \$59,266/year, and the median salary was \$55,250/year. Thirty percent of the job openings for December included salary information. Figure 3 illustrates the salary distribution among agricultural job openings for December 2024. The \$30,411 to \$37,741 bracket contained the most job openings. Most salaries fell within the middle six brackets, from \$30,411 to \$73,393. Compared to September 2024, salaries are concentrated in the same range but skewed more left in December.

Figure 3: Agricultural Salary Distribution



## SALARY BY SUBSECTOR

The distribution of salaries varies across the different subsectors of agricultural jobs, as shown in Table 1. Jobs in lending and finance (\$65,955/year), economics (\$64,197/year), and academics (\$63,409/year) had the highest average salaries. Food Science jobs had the lowest average salary (\$54,191/year). Since September, all

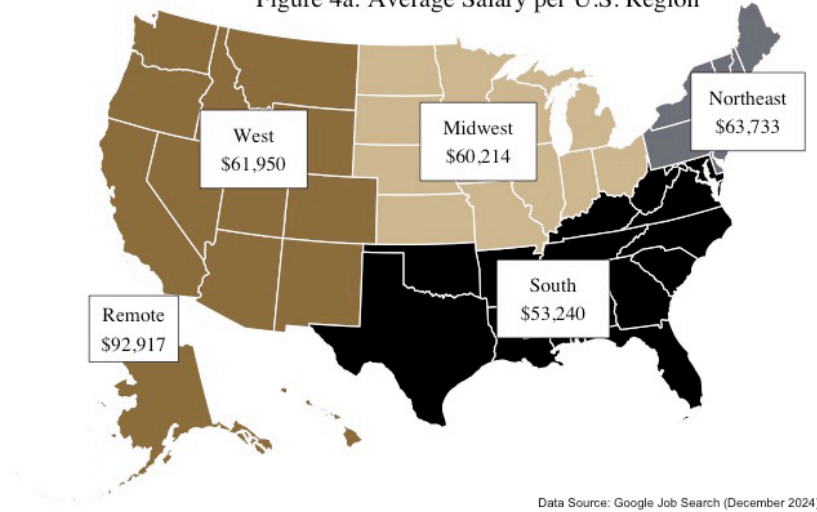
Table 1 Job Salary by Subsector	Average Salary	Median Salary
Academic	\$63,409	\$62,212
Economics	\$64,197	\$59,454
Education	\$61,045	\$55,543
Engineering	\$60,187	\$59,697
Sales	\$62,082	\$60,000
Agronomy	\$56,101	\$52,500
Animal Science	\$57,305	\$52,500
Farming	\$56,755	\$54,617
Food Science	\$54,191	\$48,177
Lending and Finance	\$65,955	\$61,111
Natural Resources	\$57,810	\$55,000
Research	\$60,181	\$57,500
Google Job Search (December 2024)		

agricultural subsectors have had higher average salaries. Lending and finance (\$69,643), education (\$64,771), and academics (\$65,488) had two-year highs in November 2024 before slightly decreasing in December. Animal sciences and food sciences were the only subsectors whose salaries increased between November and December.

## SALARY BY REGION

Figure 4a illustrates the variation in average salaries across the U.S. for December 2024. Figures 4b and 4c in the appendix show the average regional salaries for November and October, respectively. Fully remote jobs have an average salary of \$92,917/year. The salaries for remote jobs have increased month over month since September 2024, when the average was \$57,752. The Northeast has the highest average regional salary of job openings at \$63,733/year, followed by the West at \$61,950/year. The Midwest and South had the third and fourth highest average salaries, respectively. Relative to September 2024, average salaries in all geographical regions are higher except for the South. The average salaries of jobs in the Midwest hit a two-year high in November. Year over year, December average salaries in 2024 were higher in all regions except the South.

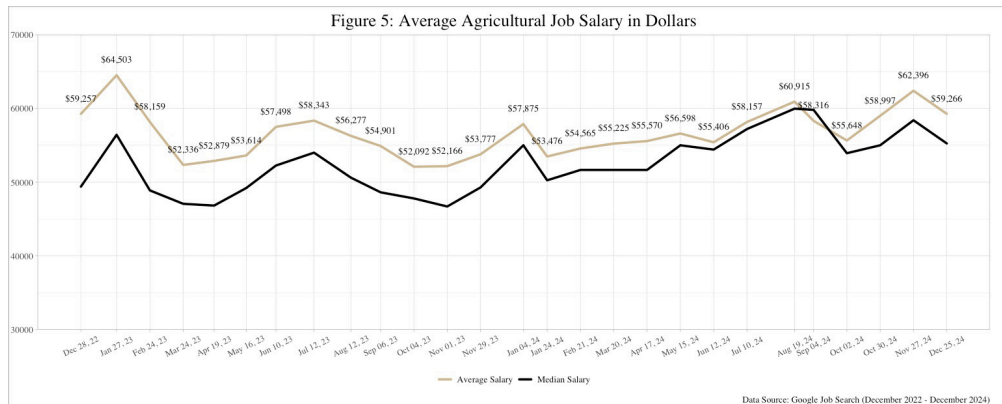
Figure 4a: Average Salary per U.S. Region



## SALARY TRENDS

The average and median salary for observed agricultural jobs over the past two years are depicted in Figure 5. Most recently, the average reported salary for agricultural jobs was \$59,266, and the median reported salary was \$55,250. Relative to September 2024, December's mean salary was greater, and December's median salary was lower. In November, the average salary was \$62,396, which is the highest it has been since January 2023. Average salaries have been higher and more volatile in the second half of 2024 than in the first. In every collection since July, the average salary has been above the 2-year mean, except for October 2nd.

Figure 5: Average Agricultural Job Salary in Dollars





# DESCRIPTION ANALYSIS

## INDUSTRY SUBCATEGORY

The job openings can be grouped by keywords mentioned within their descriptions. Based on company type or job responsibilities, it is possible for a job to fit in multiple subcategories. For example, if a job on a farm requires feeding animals and operating machinery, it would be both animal sciences and farming. Table 2 reports the number of job openings that fall within various subsectors of the agricultural industry. The top three subsectors are natural resources, farming, and engineering. Since September 4, 2024, job openings in all subsectors have decreased monthly, except for animal science jobs between October 2nd and October 30th. As a result, job openings in all subsectors except for academia are at a two-year low. This greatly contrasts the period between June and September, when many job categories had the greatest openings in the past two years.

Table 2 Industry Subsector	Job Openings
Academic	214
Ag Education	1498
Agronomy	779
Animal Science	588
Economics	790
Engineering	1507
Farming	1590
Food Science	430
Lending and Finance	1386
Natural Resources	1649
Research	1477
Sales	1273
<b>Total Jobs</b>	<b>2469</b>
<b>Google Job Search (December 2024)</b>	

## JOB REQUIREMENTS

Table 3 shows the average percentage of mentions for specific job requirements. Experience is required by 88% of jobs. The next most common requirements are communication, leadership, education, travel, and teamwork. All of these qualifications are mentioned in over half of the job openings. Following 5 months when one-fifth of all jobs mentioned remote work, mentions of the requirement have dropped below 13 percent

Table 3 Requirements	Percent of Job Openings
Communication	72.7%
Critical Thinking	15.88%
Data	26.93%
Education	63.39%
Experience	87.97%
Leadership	71.61%
Microsoft	43.74%
Programming	10.37%
Public Speaking	33.01%
Quantitative	29.97%
Remote Work	12.52%
Teamwork	54.52%
Travel	55.25%
<b>Google Job Search (December 2024)</b>	

since October. This is the lowest it has been since the middle of 2023. Another requirement that has been less cited recently is data skills. Only 24% of jobs mentioned data skills in job requirements in October and November. While mentions have climbed back to 27% in December, they are still below the 29%-30% present since January. Quantitative skills and education saw 5-month bumps between June and October when over 34% and 66% of all jobs mentioned a related qualification, respectively. Mentions of both requirements have decreased in the last two months and fall more in line with the two-year average.

## DESIRED EDUCATION

Table 4 reports the percentage of job postings in agriculture that mention each desired level of education by applicants. To be included, the educational term must be explicitly written in a job description. A job can mention multiple levels of education.

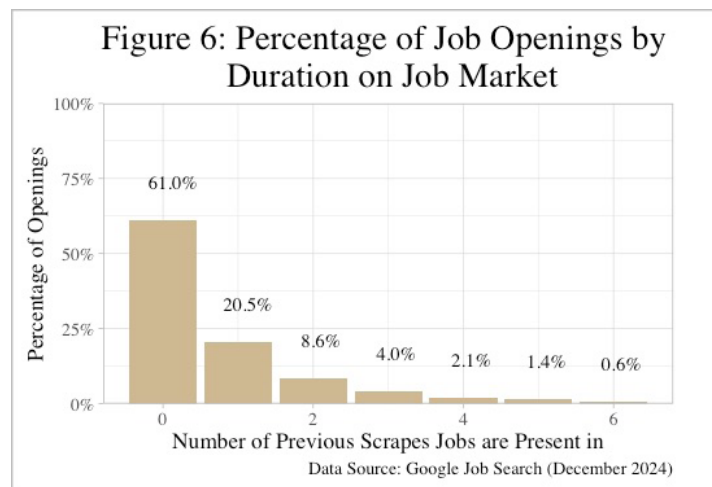
Table 4 Desired Education	Percent of Job Openings
High School	17.54%
Associates	2.79%
Bachelors	13.73%
Masters	7.94%
PhD	6.52%

**Google Job Search (December 2024)**

According to Table 4, a high school diploma is mentioned in 17.6% of agricultural job postings. At 13.7%, bachelor's degrees were the second most cited education level. Since September 2024, the percentage of jobs mentioning high school, bachelor's, and master's degrees has decreased. As a result, all three education levels hit minimums in November 2024. Trending in the opposite direction, mentions of associated and PhDs have increased since September.

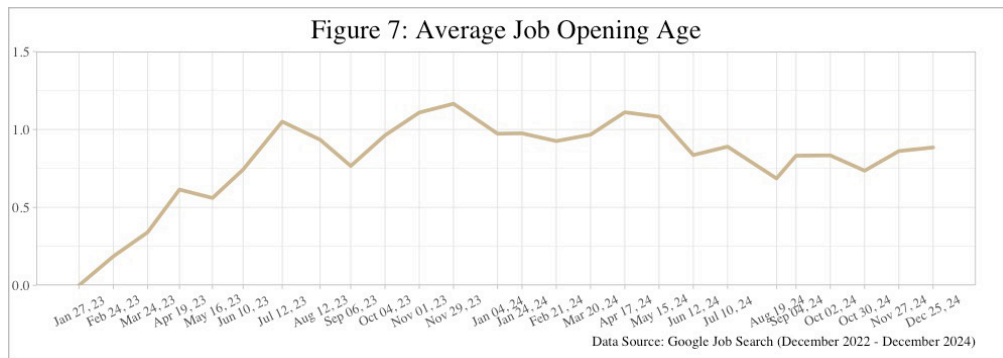
## DURATION ON JOB MARKET

The amount of time a job opening is listed can indicate how fast agricultural jobs are filled and how long agricultural employers search for potential candidates. Figure 6 shows the duration that current jobs have been on the market. 61% of agricultural jobs were not present in the prior scrape. Only 10% of jobs have been present for more than two previous collections. Relative to September, a larger



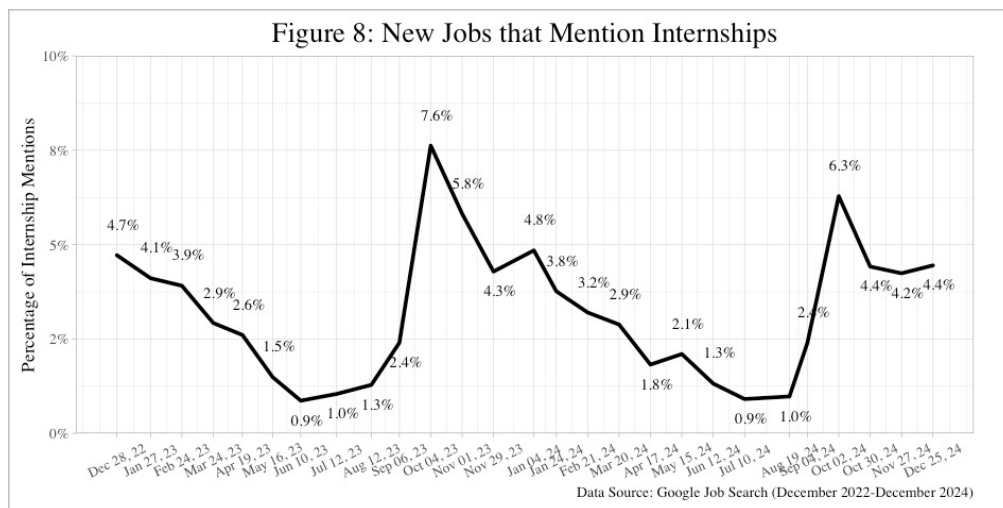
percentage of jobs were new jobs, and a smaller percentage of jobs were only present in the most recent scrape.

Another way to visualize trends in the duration job openings have been posted is through the average age of job postings over time. Figure 7 shows the average age of job postings, in terms of scrapes, over the past two years. Relative to September 2024, the average job opening age was greater in December. The average age has increased monthly for the past two scrapes. The average age of December job openings is still below one, which means that, on average, the job openings are new.



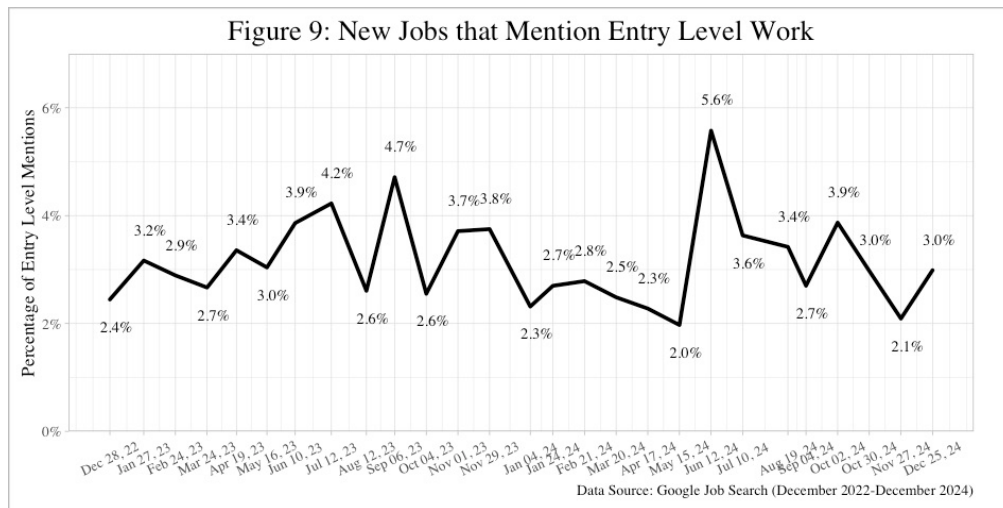
## NEW INTERSHIP OPENINGS

Figure 8 shows the percentage of new internship positions over the past two years. Each Fall, there is an increase in the number of internship openings. This coincides with a traditional recruitment period on college campuses for students to fill positions. The percentage of new jobs that were internships peaked on October 2nd. This parallels the peak in the 2023 intern cycle. This year, the peak was lower at 6.3% of new jobs being internships. Additionally, the number of internships decreased quicker in 2024 than in 2023. In the 2021 academic year, there were two peaks of new internships, so that is something to watch for in the next three months.



## NEW ENTRY-LEVEL OPENINGS

As of December 25, 2024, 3% of new jobs were entry-level. Compared to December of the past two years, the percentage of entry-level positions was greater at the end of 2024. While entry-level positions have decreased since the two-year maximum in June, they have been generally more prevalent in the six months since the spike than before it. The entire data series for the past two years can be seen in Figure 9.



# APPENDIX

---

## DATA COLLECTION

For this research, data was collected through Google's job search engine utilizing an Application Programming Interface (API) provided by SerpApi. The data collected for the report includes job title, company name, description, salary (if posted), posting date, and original job board site name.

Not all online job postings appear on Google's job search engine, and as a result, the data discussed in the report should be treated as a sample of job openings existing within the agriculture industry. Indeed.com, the number 1 job site in the world, does not share job posting data with Google. Google's job search engine represents only a fraction of jobs posted online. Job postings can be posted on multiple job boards, such as LinkedIn and Glassdoor, and company websites that allow Google's Cloud Talent Solution to analyze their job postings and display them on Google's job search engine.

Job postings available to Google's Cloud Talent Solution are curated to best fit the user's search terms. For this study, the search term included: "agriculture." This allows for a broad variety of jobs to be collected within the agricultural job market. Google's job search engine is a conglomerate of multiple online job boards. Many job openings appear on multiple job boards at a given time to get more advertising to potential employees. Data presented in this report could impose bias specific to Google's job search engine data. Although possible, we believe the data collected is valuable for industry employers as a metric for comparing company hiring to the agricultural industry. Therefore, this report is an analysis of Google's data and is not fully representative of the agricultural job market.

Google's job search engine hosts thousands of job boards' data. Due to the immense amount of job boards available, job advertising is a competitive market. Companies seeking premium talent should post on the more popular job boards, which produce more traffic.

## DESCRIPTION ANALYSIS

From the data, each job posting has a description. Text mining was used to pull information from these descriptions, and it is possible to quantify the amount of mentions of specific characteristics. We were able to extract salary, subsector information, requirements, and education. The categories

were found using the “bag of words” technique. A list of words was created to represent similar phrases and synonyms that represent a characteristic of interest. For example, quantitative skills would be marked as appearing in a job posting if terms appear in the description such as “quantitative,” “analysis,” “prediction,” “mathematics,” and “statistics.” These terms are represented as nouns, verbs, and adjectives to catch all forms of context that might be represented in written language. Descriptions are then searched to evaluate if any of these terms were mentioned. If a term was mentioned once or more, the description was tallied as mentioning those specific characteristics.

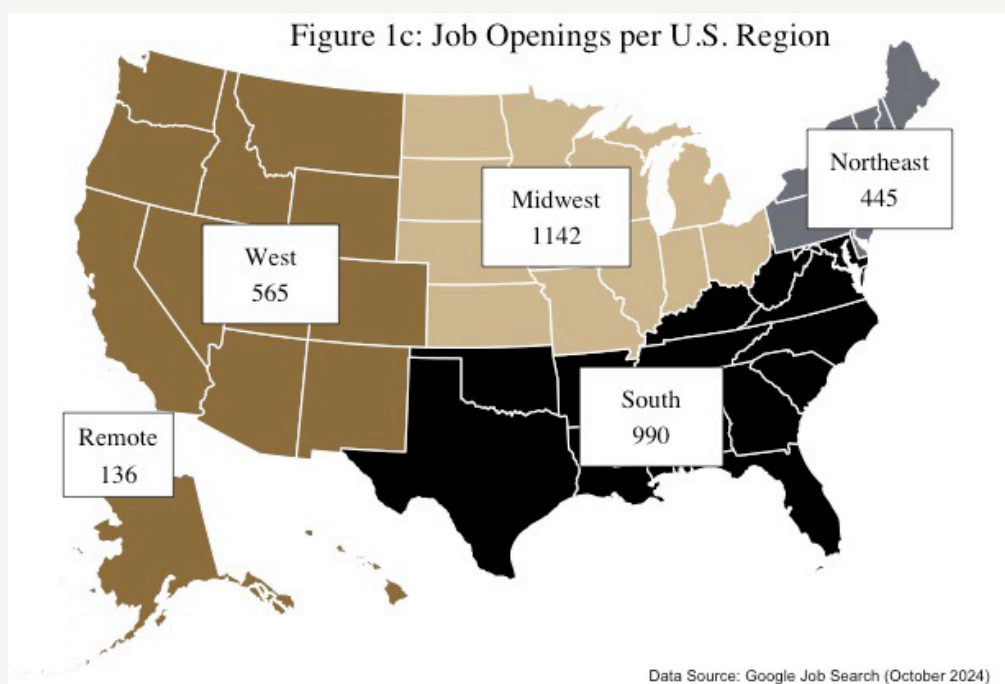
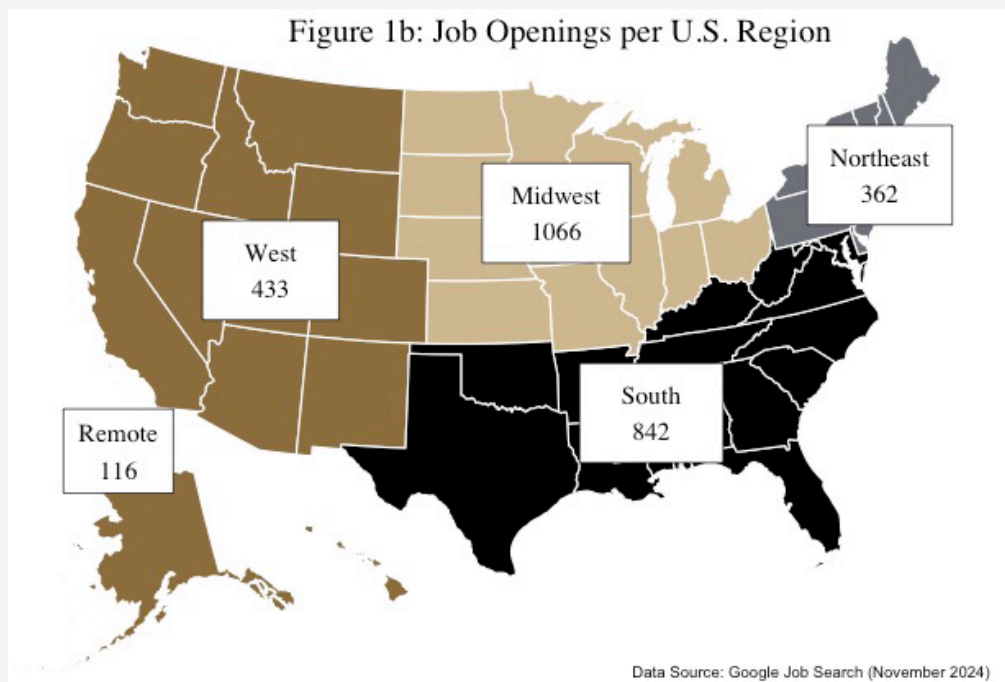


Figure 4b: Average Salary per U.S. Region

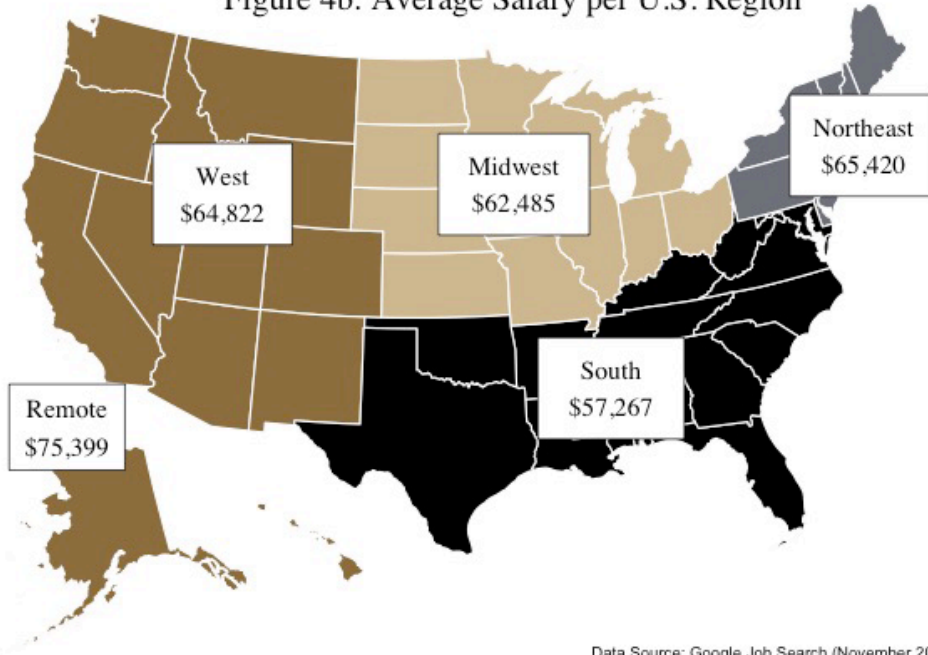
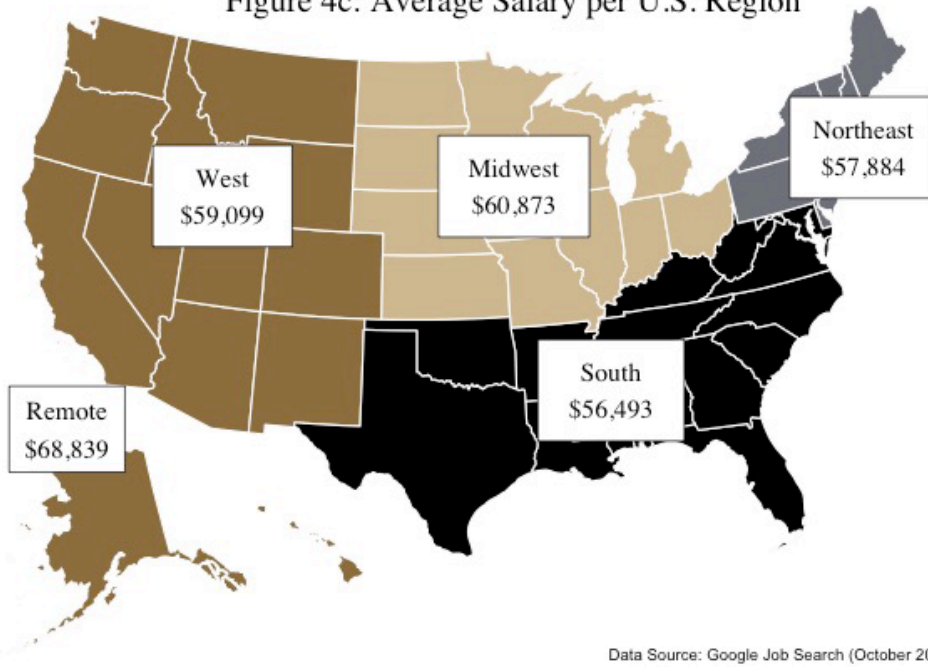


Figure 4c: Average Salary per U.S. Region



Industry Subsector	Word List
<b>Academic</b>	Company name must contain “college”, or “university” and Description must contain “professor”, “dean”, “adjunct”, “tenure”, “chair”, “post doc”, “postdoc”, “faculty”, “lecture”, or “instructor”
<b>Ag Education</b>	“ag ed”, “ag teacher”, “agricultural teacher”, “ag education”, “agriculture education”, “agricultural education”, “educator”, “teach”, “teacher”, “class”, “classroom”, “ffa”, “4-h”, “4h”, “ag teacher”, “teaching”, “extension educator”, “future farmers of america”, “ext agent”, or “extension”
<b>Agronomy</b>	“crop adviser”, “agronomy”, “agronomist”, “corn”, “soybeans”, “soil”, “seed”, “crop”, “grain”, “cultivation”, “greenhouse”, “irrigation”, “appraiser”, “horticulture”, “fertilizer”, “pesticide”, “fungicide”, “herbicide”, “applicator”, “sprayer”, or “botanist”
<b>Animal Science</b>	“animal”, “veterinarian”, “veterinary”, “sheep”, “cattle”, “dairy”, “swine”, “pig”, “pork”, “beef”, “livestock”, “breed”, “poultry”, “equestrian”, “horse”, “bovine”, “ranch”, “farrowing”, “feedlot”, “grazing”, “dairies”, “milking”, “egg gatherer”, “herdsman”, or “herdsperson”
<b>Economics</b>	“economic”, “economist”, “econometric”, “statistician”, “risk”, “commodity”, “price”, “pricing”, “policy specialist”, “policy analyst”,
<b>Engineering</b>	“ag systems management”, “agricultural systems management”, “asm”, “engineer”, “mechanic”, “diesel”, “equipment”, “service tech”, “service manager”, “maintenance tech”, “production tech”, “electrical tech”, “precision tech”, “repair”, “construction”, “mechan”, “weld”, “precision”, “digital ag”, or “technology”
<b>Farming</b>	“farming”, “farmhand”, “planting”, “plant”, “harvest”, “harvester”, “farm”, “forage”, “combine”, or “farmer”
<b>Food Science</b>	“food science”, “food production”, “meat packing”, “butcher”, “food distribution”, “food handling”, “food processes”, “food product”, “meat”, or “produce”
<b>Lending and Finance</b>	“loan”, “credit”, “lender”, “lending”, “bank”, “finance”, “tax”, “investment”, “budget”, “financial”, “insurance”, “account”, “underwriter”, “audit”, or “collateral”
<b>Natural Resources</b>	“conservation”, “wildlife”, “environment”, “environmental”, “ecosystem”, “forest”, “tree”, “raw materials”, “nature”, “energy”, “pollution”, “renewable”, “fire”, “climate”, “natural”, “sustainable”, “resources”, “surveyor”, “fish”, “microbiologist”, “geologist”, “biologist”, or “biological”
<b>Research</b>	“research”, “laboratory”, “scientist”, “chemist”, or “lab”
<b>Sales</b>	“ag sales”, “agricultural sales”, “sell”, “customer”, “account”, “commission”, “sale”, “seller”, “buyer”, or “buying”

Desired Education	Word List
<b>High School</b>	“high school”
<b>Associates</b>	“associate’s”, “associate degree”, “associates’s degree”
<b>Bachelors</b>	“bachelors”, “bachelor’s degree”, “bachelor degree”
<b>Masters</b>	“masters”, “master’s degree”, “master degree”, “grad school”, “gradschool”, “graduate degree”, “advanced degree”
<b>PhD</b>	“phd”, “p.h.d”, “ph.d”, “doctorate”, “doctoral degree”



Requirements	Word List
<b>Communication</b>	“communication”, “communicate”, “talk”, “call”, “email”, “explain”, “present”, “speak”
<b>Critical Thinking</b>	“critical thinking”, “problem solving”, “analysis”, “deliberate”, “brainstorm”, “reasoning”
<b>Data</b>	“data”, “data analysis”, “big data”, “data analyst”, “data wrangling”, “data collection”
<b>Education</b>	“degree”, “degrees”, “college”, “graduate”, “undergrad”, “doctorate”, “phd”, “bachelor”, “bachelors”, “education”, “gpa”
<b>Experience</b>	“work experience”, “experience”, “training”, “prior job”, “familiarity”, “practice”, “knowledge”, “background”, “exposure to”, “understanding of”
<b>Leadership</b>	“leadership”, “lead”, “leading”, “leader”, “manager”, “management”, “mentor”, “supervision”, “supervisor”, “supervise”
<b>Microsoft</b>	“excel”, “spreadsheet”, “microsoft”, “word”, “powerpoint”, “outlook”
<b>Public Speaking</b>	“public speaking”, “speaking”, “speech”, “speeches”, “speak”, “present”, “presentation”
<b>Programming</b>	“coding”, “code”, “python”, “r”, “sql”, “java”, “c”, “computing”, “algorithm”
<b>Quantitative</b>	“quantitative”, “analysis”, “analyze”, “analyst”, “insight”, “predict”, “prediction”, “predictive”, “math”, “mathematics”, “statistics”, “statistical”, “optimization”, “optimize”, “regression”
<b>Remote Work</b>	“remote”, “remote working”, “home office”, “work from home”, “work at home”
<b>Teamwork</b>	“collaboration”, “team”, “teams”, “teamwork”
<b>Travel</b>	“travel”, “drive”, “driving”, “fly”, “flying”

Benefits	Word List
<b>General Benefits</b>	“medical”, “dental”, “vision”, “ad&d”, “ad and d”, “accidental death and dismemberment”, “std”, “short term disability”, “short-term disability”, “ltd”, “long term disability”, “long-term disability”, “vacation”, “holiday”, “disability”, “health insurance”, “health savings account”, “life insurance”, “paid time off”, “pto”, “referral program”, “retirement planning”, “retirement”
<b>Diversity</b>	“diverse”, “diversity”
<b>Equal Opportunity</b>	“equal opportunity”, “without regard”, “religion”, “sex”, “color”, “age”, “race”
<b>Tuition Reimbursement</b>	“tuition”
<b>401(K)</b>	“401k”, “401 k”, “401(k)”

States in Each Region from Figure 1 and 4	
<b>Midwest</b>	IN, IL, MI, OH, WI, IA, KS, MN, MO, NE, ND, SD
<b>Northeast</b>	CT, ME, MA, NH, RI, VT, NJ, NY, PA
<b>South</b>	DE, FL, GA, MD, NC, SC, VA, WV, AL, KY, MS, TN, AR, LA, OK, TX, DC
<b>West</b>	AZ, CO, ID, NM, MT, UT, NV, WY, AK, CA, HI, OR, WA

# REFERENCES

---

"About Indeed." Indeed.com, Mar. 2020, [www.indeed.com/about](http://www.indeed.com/about).

SerpApi, LLC. "Google Jobs API." SerpApi, 2022, <https://serpapi.com/google-jobs-api>.