Multiple linear regression scenarios

- Size of menu
- Foot traffic
- Cancellation of reservations
- Business partnerships (ex: delivery apps, farmers' markets, community organizations)

Scenario 3: Agricultural production

Suppose you are working in agricultural production, perhaps on a farm or a ranch. Even though this is a very different environment from a restaurant or online service, multiple regression can still be helpful. For example, let's say that you are trying to predict crop yield, revenue for the season, or amount of crops sold. From the weather to soil conditions to labor and resource usage, there are many factors that could contribute to a good year or a bad year for a farm or any kind of agricultural production. Multiple regression can be used to help better plan and predict for worse years.

Potential dependent variables (Y)

- Crop yield
- Revenue
- Crops sold

Potential independent variables (X)

- Weather (rainfall, temperature)
- Nutrients in soil
- Historic crop yield
- Cost of fertilizer
- Cost of fuel, water, or energy used to maintain crops
- Cost of labor
- Partnerships with local restaurants or, grocery stores

Key Takeaways

- Multiple regression is a versatile and effective way to understand and describe more complex relationships between variables.
- Multiple regression can be used in a variety of industries and contexts.

Resources for more information

- "Multiple Regression: Definition, Uses, and 5 Examples." *Indeed Editorial Team*.
- "Multivariate Regression Analysis | STATA Data Analysis Examples." *UCLA: Statistical Consulting Group.*