## Example - Calculating Average Annual Gross Payments per Square Foot by Quintile

This is an example using hypothetical annual gross payments to growers to calculate average annual gross payments per square foot by quintile using the instructions in the Appendix to Form PSD 6100. The example starts after step 4 of the instructions.

Instructions from Appendix to Form PSD 6100:

1. Group growers according to the housing specification affiliated with their broiler growing arrangement.
a. Include all growers under contract for a complete calendar year and growers under flock-to-flock broiler growing arrangements for the full year.
b. Exclude growers whose housing specifications changed during the calendar year from the calculation for that year.
2. Sum all gross payments to each grower during the calendar year to determine each grower's annual gross payments.
3. Divide each grower's total annual gross payments by the square footage of floor space of the grower's farm facility to reflect dollars per farm facility square foot of floor space.

Example: A broiler complex paid the following amounts per square foot of housing to each of 17 growers with the same housing specifications for the year.
\$1.32, \$1.94, \$2.18, \$1.50, \$2.11, \$1.97, \$1.92, \$1.60, \$1.35, \$1.79, \$1.33, \$1.37, \$1.66, \$1.52, \$1.56, \$1.56, \$1.93
4. Rank the annual gross payments per square foot in numerical order from lowest to highest.

Result: Ranking the annual gross payments in numerical order from lowest to highest results in the table below. Notice that the value of $\$ 1.56 / \mathrm{ft} .^{2}$ in the example occurs twice. There should be no ties in the ranking. One is ranked as 7 in the ranking and the other is ranked as 8 .

| Rank | Annual Gross <br> Payments per <br> Square Foot | Rank | Annual Gross <br> Payments per <br> Square Foot |
| :---: | :---: | :---: | :---: |
| 1 | $\$ 1.32$ | 10 | $\$ 1.66$ |
| 2 | $\$ 1.33$ | 11 | $\$ 1.79$ |
| 3 | $\$ 1.35$ | 12 | $\$ 1.92$ |
| 4 | $\$ 1.37$ | 13 | $\$ 1.93$ |
| 5 | $\$ 1.50$ | 14 | $\$ 1.94$ |
| 6 | $\$ 1.52$ | 15 | $\$ 1.97$ |
| 7 | $\$ 1.56$ | 16 | $\$ 2.11$ |
| 8 | $\$ 1.56$ | 17 | $\$ 2.18$ |
| 9 | $\$ 1.60$ |  |  |

5. Multiply the total number of growers by 0.2 , and round to the nearest whole number to determine the largest ranking annual gross payment per square foot in the first quintile. All annual gross payments $\left(\$ / \mathrm{ft}^{2}\right)$ at this upper bound and below form the first quintile.
6. Multiply the total number of growers by $0.4,0.6$, and 0.8 , respectively and round to the nearest whole number to determine the largest ranking annual gross payments per square foot for each remaining quintile. The lower bounds for each quintile are simply the next annual gross payments per square foot above the upper bound of the previous quintile. All annual gross payments per square foot greater than the upper bound of the fourth quintile form the fifth quintile.
7. Group each annual gross payment per square foot into each quintile using the respective lower and upper bounds calculated above.

Multiplying the total number of growers in the example, which is 17 , by $0.2,0.4,0.6$, and .08 results in $3.4,6.8,10.2$, and 13.6 . Rounding to the nearest whole number results in $3,7,10$, and 14. These will be the largest ranking payments in the first, second, third, and fourth quintiles respectively. The first quintile will include payments ranking 1,2 , and 3 . Since the second quintile will start with next ranking payment after the first ended, it will consist of payments ranking $4,5,6$, and 7 . The third quintile will consist of payments ranking 8,9 , and 10 . The fourth will have payments $11,12,13$, and 14 , and the fifth quintile will have all the rest.

Result: The table below groups the annual payments per square foot into quintiles.

| Rank | Annual Gross <br> Payments per <br> Square Foot | Quintile | Rank | Annual Gross <br> Payments per <br> Square Foot | Quintile |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | $\$ 1.32$ | 1 | 11 | $\$ 1.79$ | 4 |
| 2 | $\$ 1.33$ | 1 | 12 | $\$ 1.92$ | 4 |
| 3 | $\$ 1.35$ | 1 | 13 | $\$ 1.93$ | 4 |
| 4 | $\$ 1.37$ | 2 | 14 | $\$ 1.94$ | 4 |
| 5 | $\$ 1.50$ | 2 | 15 | $\$ 1.97$ | 5 |
| 6 | $\$ 1.52$ | 2 | 16 | $\$ 2.11$ | 5 |
| 7 | $\$ 1.56$ | 2 | 17 | $\$ 2.18$ | 5 |
| 8 | $\$ 1.56$ | 3 |  |  |  |
| 9 | $\$ 1.60$ | 3 |  |  |  |
| 10 | $\$ 1.66$ | 3 |  |  |  |

8. Calculate the average of the annual gross payments per square foot in each quintile.

To determine the average payment in each quintile to report in the disclosure document, sum the payments in each quintile grouping and divide by the number of payments in each grouping. The payments in the first quintile are $\$ 1.32, \$ 1.33$, and $\$ 1.35$. Summing the payments results in $\$ 4.00$ and dividing by 3 results in an average of $\$ 1.33 / \mathrm{ft} .2$ to report in a table in the disclosure document. Repeating the steps for the remaining quintiles, the average payment per square foot to growers in the second quintile is the sum of $\$ 1.37, \$ 1.50, \$ 1.52$, and $\$ 1.56$ divided by 4 , which is $\$ 1.49$. The average payment per square foot to growers in
the third quintile is the sum of $\$ 1.56, \$ 1.60$, and $\$ 1.66$ divided by 3 , which is $\$ 1.61$. The average payment per square foot to growers in the fourth quintile is the sum of $\$ 1.79, \$ 1.92$, $\$ 1.93$, and $\$ 1.94$ divided by 4 , which is $\$ 1.90$. The average payment per square foot to growers in the fifth quintile is the sum of $\$ 1.97, \$ 2.11$, and $\$ 2.18$ divided by 3 , which is \$2.09.

Result: The average annual payment per square foot to report in the disclosure document is $\$ 1.33$ for the first quintile, $\$ 1.49$ for the second quintile, $\$ 1.61$ for the third quintile, $\$ 1.90$ for the fourth quintile, and $\$ 2.09$ for the last quintile.
9. Place the average of the annual gross payments per square foot for each quintile into tables based on the following example table.

Result: Quintiles of Average Annual Gross Payment per square foot for Calendar Year 20XX.*

| Complex and Housing Information |  | Quintiles | Average Annual <br> Gross Payments ** |
| :--- | :--- | :--- | :---: |
| Complex name (City, State, complex) |  |  |  |
|  | Housing Specification A | $1^{\text {st }}$ quintile (lowest 20\%) | $\$ 1.33$ |
|  | Housing Specification A | $2^{\text {nd }}$ quintile (next 20\%) | $\$ 1.49$ |
|  | Housing Specification A | $3^{\text {rd }}$ quintile (next 20\%) | $\$ 1.61$ |
|  | Housing Specification A | $4^{\text {th }}$ quintile (next 20\%) | $\$ 1.90$ |
|  | Housing Specification A | $5^{\text {th }}$ quintile (highest 20\%) | $\$ 2.09$ |

* Live poultry dealers should prepare this table for each of the five previous years.
**Live poultry dealers should lengthen or shorten the table as needed to include each housing specification at each complex.

