



# INDEPENDENT NUTRITIONAL ANALYSIS

Mineral, Fatty Acid, Amino Acid, and  
Phytoestrogen Quantification of  
Pasture-Raised Poultry



Willow Hedge Farms

These results are from a randomized sample of our pasture raised whole chicken raised in the summer of 2025 and submitted for testing in the fall of that year.

| Test Result Name                   | Result | Unit          |
|------------------------------------|--------|---------------|
| - Monounsaturated Fat (per 100g)   | <0.10  | g/100g        |
| - Monounsaturated Fat (per serv)   | <0.10  | /serving      |
| - Polyunsaturated Fat (per 100g)   | <0.10  | g/100g        |
| - Polyunsaturated Fat (per serv)   | <0.10  | /serving      |
| - Saturated Fat (per 100g)         | <0.10  | g/100g        |
| - Saturated Fat (per serving)      | <0.10  | /serving      |
| - Trans Fat (per 100g)             | <0.10  | g/100g        |
| - Trans Fat (per serving)          | <0.10  | /serving      |
| 10:0 Decanoic - %FA                |        | 0% (w/w)      |
| 11:0 Undecanoic - %FA              |        | 0% (w/w)      |
| 12:0 Dodecanoic - %FA              |        | 0% (w/w)      |
| 12:1 Dodecenoic - %FA              |        | 0% (w/w)      |
| 14:0 Tetradecanoic - %FA           |        | 0.383% (w/w)  |
| 14:1 Tetradecenoic - %FA           |        | 0% (w/w)      |
| 14:1 trans-Tetradecenoic - %FA     |        | 0% (w/w)      |
| 15:0 Pentadecanoic - %FA           |        | 0.68% (w/w)   |
| 15:1 Pentadecenoic - %FA           |        | 0% (w/w)      |
| 16:0 Hexadecanoic - %FA            |        | 19.699% (w/w) |
| 16:1 Hexadecenoic - %FA            |        | 1.949% (w/w)  |
| 16:1 trans-Hexadecenoic - %FA      |        | 0% (w/w)      |
| 17:0 Heptadecanoic - %FA           |        | 0% (w/w)      |
| 17:1 Heptadecenoic - %FA           |        | 0% (w/w)      |
| 18:0 Octadecanoic - %FA            |        | 10.711% (w/w) |
| 18:1 Octadecenoic - %FA            |        | 26.286% (w/w) |
| 18:1 trans-Octadecenoic - %FA      |        | 0% (w/w)      |
| 18:2 conj Linoleic - %FA           |        | 0% (w/w)      |
| 18:2 Octadecadienoic - %FA         |        | 21.399% (w/w) |
| 18:2 trans-Octadecadienoic - %FA   |        | 0% (w/w)      |
| 18:3 g-Linolenic - %FA             |        | 0% (w/w)      |
| 18:3 Octadecatrienoic - %FA        |        | 4.178% (w/w)  |
| 18:3 trans-Octadecatrienoic - %FA  |        | 0% (w/w)      |
| 18:4 Octodecatetraenoic - %FA      |        | 0% (w/w)      |
| 20:0 Eicosanoic - %FA              |        | 0% (w/w)      |
| 20:1 Eicosenoic - %FA              |        | 0.874% (w/w)  |
| 20:1 trans-Eicosenoic - %FA        |        | 0% (w/w)      |
| 20:2 Eicosadienoic - %FA           |        | 0% (w/w)      |
| 20:3 11,14,17-Eicosatrienoic - %FA |        | 0% (w/w)      |
| 20:3 5,8,11-Eicosatrienoic - %FA   |        | 0% (w/w)      |
| 20:3 8,11,14-Eicosatrienoic - %FA  |        | 0% (w/w)      |
| 20:4 Eicosatetraenoic - %FA        |        | 6.359% (w/w)  |
| 20:5 Eicosapentaenoic - %FA        |        | 0.748% (w/w)  |
| 21:0 Heneicosanoic - %FA           |        | 0% (w/w)      |
| 22:0 Docosanoic - %FA              |        | 0% (w/w)      |
| 22:1 Cetoleic - %FA                |        | 0% (w/w)      |
| 22:1 Docosaenoic (Erucic) - %FA    |        | 0% (w/w)      |
| 22:1 trans-Docosaenoic - %FA       |        | 0% (w/w)      |
| 22:2 Docosadienoic - %FA           |        | 0% (w/w)      |
| 22:3 Docosatrienoic - %FA          |        | 0% (w/w)      |
| 22:4 Docosatetraenoic - %FA        |        | 0% (w/w)      |

|                             |  |                |
|-----------------------------|--|----------------|
| 22:5 Docosapentaenoic - %FA |  | 3.04% (w/w)    |
| 22:6 Docosahexaenoic - %FA  |  | 1.779% (w/w)   |
| 23:0 Tricosanoic - %FA      |  | 0% (w/w)       |
| 24:0 Tetracosanoic - %FA    |  | 0% (w/w)       |
| 24:1 Tetracosanoic - %FA    |  | 0% (w/w)       |
| 4:0 Butanoic - %FA          |  | 1.917% (w/w)   |
| 5:0 Pentanoic - %FA         |  | 0% (w/w)       |
| 6:0 Hexanoic - %FA          |  | 0% (w/w)       |
| 7:0 Heptanoic - %FA         |  | 0% (w/w)       |
| 8:0 Octanoic - %FA          |  | 0% (w/w)       |
| 9:0 Nonanoic - %FA          |  | 0% (w/w)       |
| Aluminum                    |  | 0.2ppm (w/w)   |
| Antimony                    | <0.01                                    | ppm (w/w)      |
| Arsenic                     | <0.01                                    | ppm (w/w)      |
| As Received                 |  | 22.12% (w/w)   |
| Ash (per 100g)              |  | 1.1 g/100g     |
| Ash (per serving)           |  | 1.1 /serving   |
| Ash Ref                     | AOAC 945.46 : QA-0225-2001               | -              |
| Barium                      |  | 0.03ppm (w/w)  |
| Beryllium                   | <0.01                                    | ppm (w/w)      |
| Bismuth                     | <0.02                                    | ppm (w/w)      |
| Boron                       | <0.2                                     | ppm (w/w)      |
| Cadmium                     | <0.001                                   | ppm (w/w)      |
| Calcium                     |  | 90ppm (w/w)    |
| Calcium (per 100g)          |  | 7.3 mg/100g    |
| Calcium (per serving)       |  | 7.3 /serving   |
| Calcium Ref                 | AOAC 984.27 (mod.) : QA-9901-1146        | -              |
| Calories (per 100g)         |  | 97.5 /100g     |
| Calories (per serving)      |  | 97.5 /serving  |
| Calories Ref                | Calculation                              | -              |
| Cholesterol (per 100g)      |  | 72.3 mg/100g   |
| Cholesterol (per serving)   |  | 72.3 /serving  |
| Cholesterol Ref             | AOAC 994.10 (mod) : QA-9901-1863/Internl | -              |
| Chromium                    |  | 0.02ppm (w/w)  |
| Cobalt                      | <0.01                                    | ppm (w/w)      |
| Copper                      |  | 0.39ppm (w/w)  |
| Household Measure           | 100 g                                    | -              |
| Iron                        |  | 4.6ppm (w/w)   |
| Iron (per 100g)             |  | 0.45 mg/100g   |
| Iron (per serving)          |  | 0.45 /serving  |
| Iron Ref                    | AOAC 984.27 (mod.) : QA-9901-1146        | -              |
| Lead                        | <0.01                                    | ppm (w/w)      |
| Lithium                     | <0.1                                     | ppm (w/w)      |
| Magnesium                   |  | 265ppm (w/w)   |
| Manganese                   |  | 0.11ppm (w/w)  |
| Mercury                     | <0.005                                   | ppm (w/w)      |
| Moisture - Vacuum Oven      |  | 74.82% (w/w)   |
| Moisture (per 100g)         |  | 74.82 g/100g   |
| Moisture (per serving)      |  | 74.82 /serving |
| Moisture Ref                | AOAC 950.46A : QA-0200-4101              | -              |

|                                  |                                   |                |
|----------------------------------|-----------------------------------|----------------|
| Molybdenum                       |                                   | 0.03ppm (w/w)  |
| Nickel                           | <0.02                             | ppm (w/w) -    |
| Nutritional Label                | US                                |                |
| Phosphorus                       |                                   | 1890ppm (w/w)  |
| Potassium                        |                                   | 3180ppm (w/w)  |
| Potassium (per 100g)             |                                   | 347 mg/100g    |
| Potassium (per serving)          |                                   | 347 /serving   |
| Potassium Ref                    | AOAC 984.27 (mod.) : QA-9901-1146 | - -            |
| Protein (factor)                 |                                   | 6.25 g/100g    |
| Protein (per 100g)               |                                   | 22.12 /serving |
| Protein (per serving)            |                                   | 22.12 --       |
| Protein Factor                   |                                   | 6.25           |
| Protein Ref                      | AOAC 981.10 : QA-0215-4350        |                |
| Selenium                         |                                   | 0.3ppm (w/w)   |
| Serving Size                     | 100.0 g                           | - ppm (w/w)    |
| Silver                           | <0.02                             | 545ppm (w/w)   |
| Sodium                           |                                   |                |
| Sodium (per 100g)                |                                   | 63.3 mg/100g   |
| Sodium (per serving)             |                                   | 63.3 /serving  |
| Sodium Ref                       | AOAC 984.27 (mod.) : QA-9901-1146 | -              |
| Strontium                        |                                   | 0.1ppm (w/w)   |
| Thallium                         | <0.01                             | ppm (w/w)      |
| Thorium                          | <0.1                              | ppm (w/w)      |
| Tin                              | <0.01                             | ppm (w/w)      |
| Titanium                         |                                   | 1.69ppm (w/w)  |
| Total - %FA                      |                                   | 100% (w/w)     |
| Total Carbohydrate (per 100g)    |                                   | 1.8 g/100g     |
| Total Carbohydrate (per serving) |                                   | 1.8 /serving   |
| Total Carbohydrate Ref           | Calculation                       | -              |
| Total Cis MUFA                   |                                   | 0.06% (w/w)    |
| Total Cis MUFA - %TFA            |                                   | 29.11% (w/w)   |
| Total Cis PUFA                   |                                   | 0.07% (w/w)    |
| Total Cis PUFA - %TFA            |                                   | 37.5% (w/w)    |
| Total Conj FA                    |                                   | 0% (w/w)       |
| Total Conj FA - %TFA             |                                   | 0% (w/w)       |
| Total Fat (per 100g)             |                                   | 0.2 g/100g     |
| Total Fat (per serving)          |                                   | 0.2 /serving   |
| Total Fat Ref                    | AOAC 996.06 (mod.) : QA-0210-4221 | -              |
| Total SFA                        |                                   | 0.06% (w/w)    |
| Total SFA - %TFA                 |                                   | 33.39% (w/w)   |
| Total Trans FA                   |                                   | 0% (w/w)       |
| Total Trans FA - %TFA            |                                   | 0% (w/w)       |
| Total Vitamin D (per 100g)       | <0.13 <0.13 AOAC                  | mcg/100g       |
| Total Vitamin D (per serving)    | 2016.05 Mod. <0.01                | /serving -     |
| Total Vitamin D Ref              | <0.01 <0.13 <0.13                 | ppm (w/w)      |
| Uranium                          | <0.13                             | ppm (w/w)      |
| Vanadium                         |                                   | mcg/100g       |
| Vitamin D2 (per 100g)            |                                   | /serving       |
| Vitamin D2 (per serving)         |                                   | mcg/100g       |
| Vitamin D3 (per 100g)            |                                   |                |

|                          |       |               |
|--------------------------|-------|---------------|
| Vitamin D3 (per serving) | <0.13 | /serving      |
| Zinc                     |       | 9.02ppm (w/w) |
| Zirconium                | <0.1  | ppm (w/w)     |

| Free Amino Acid Concentration in µg/g |         |            |
|---------------------------------------|---------|------------|
| SampleName                            | Abbr.   | PC2512-2A1 |
| Alanine                               | Ala     | 731.61     |
| Arginine                              | Arg     | 460.62     |
| Asparagine                            | Asn     | 127.78     |
| Aspartate                             | Asp     | 210.41     |
| Cysteine                              | Cys     | 34.22      |
| Cystine                               | Cys-Cys | <LOQ       |
| 4-Aminobutyric acid                   | GABA    | 1.76       |
| Glutamine                             | Gln     | 947.82     |
| Glutamate                             | Glu     | 710.22     |
| Glycine                               | Gly     | 309.85     |
| Histidine                             | His     | 85.2       |
| 4-Hydroxyproline                      | HyPro   | 67.07      |
| Isoleucine                            | Ile     | 105.49     |
| Leucine                               | Leu     | 289.27     |
| Lysine                                | Lys     | 611.58     |
| Methionine                            | Met     | 112.95     |
| Ornithine                             | Orn     | 20.61      |
| L-Proline                             | Phe     | 99.49      |
| Serine                                | Pro     | 111.71     |
| Taurine                               | Ser     | 777.03     |
| Threonine                             | Tau     | 1939.91    |
| Tryptophan                            | Thr     | 252.33     |
| Tyrosine                              | Trp     | 60.51      |
| Valine                                | Tyr     | 175.77     |
|                                       | Val     | 157.68     |
|                                       |         |            |
| LOQ in µM                             |         |            |
| Cystine                               |         | 0.006      |

**Phytoestrogen Quantification(UPLC-MRM/MS)**Concentration in Uncooked Chicken Skin/Subcutaneous Fat ( $\mu\text{g/g}$  converted from  $\text{nmol/g}$ )**Enterodiol(ED,  $\mu\text{g}/100\text{g}$ )**

|        |           |
|--------|-----------|
| Min    | 0.0000167 |
| Max    | 0.0000409 |
| Mean   | 0.0000255 |
| Median | 0.0000242 |

**Enterolactone (EL,  $\mu\text{g}/100\text{ g}$ )**

|        |          |
|--------|----------|
| Min    | 0.000201 |
| Max    | 0.000593 |
| Mean   | 0.000339 |
| Median | 0.000337 |

|        | Enterodiol | Enterolactone |
|--------|------------|---------------|
| QC_1   | 0.00089861 | 0.0117299     |
| QC_2   | 0.00080894 | 0.01198775    |
| QC_3   | 0.00079612 | 0.01274103    |
| QC_4   | 0.00082823 | 0.01243157    |
| %CV QC | 4.75%      | 3.20%         |