



## RESULTADOS PARTICIPACIÓN EN AQUACULTURE 2026 RING TEST EN ALIMENTOS PARA SALMÓN



ESTIMADOS SEÑORES

Asunto: **RESULTADOS PARTICIPACIÓN EN AQUACULTURE 2026 RING TEST**

Nos complace compartir con ustedes los resultados obtenidos en el **Acuicultura 2026 Ring Test**. En **Milan Testing Laboratory** como laboratorio de prestación de servicios, este ejercicio es de gran importancia para poder demostrar nuestro desempeño en muestras y análisis de interés para la industria acuícola.

Para nuestro laboratorio la participación en ensayos interlaboratorios es fundamental porque nos permite **garantizar la validez, exactitud y confiabilidad de nuestros los resultados analíticos** mediante la comparación objetiva de nuestras mediciones con las de otros centros a nivel global.

**Milan Testing Laboratory** participó en el **Aquaculture 2026 Ring Test** en la determinación de los siguientes análisis para la matriz alimento para peces, somos el laboratorio **Lab code 41**.

| MUESTRA           | ANALISIS                           |
|-------------------|------------------------------------|
| MUESTRA FISH FEED | BHA / BHT                          |
|                   | Materia grasa con Hidrólisis ácida |
|                   | Humedad                            |
|                   | Proteína                           |
|                   | Perfil de aminoácidos              |
|                   | Perfil de ácidos grasos            |
|                   | Astaxantina                        |
|                   | Vitamina D3                        |
|                   | Vitamina E                         |

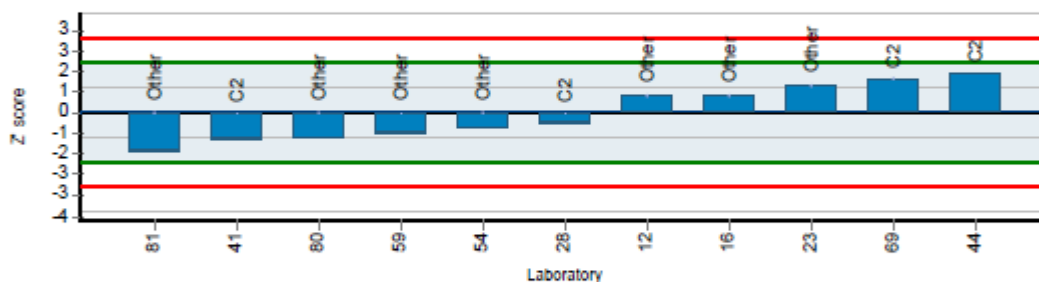
## RESULTADOS PARTICIPACIÓN EN AQUACULTURE 2026 RING TEST

### 1.-DETERMINACIÓN DE BHA EN ALIMENTO PARA PECES



Aquaculture ring test 2026-Final Report: Fish Feed

|                                                                         |            |                            |            |
|-------------------------------------------------------------------------|------------|----------------------------|------------|
| Sample:                                                                 | Fish feed  | No. of laboratories:       | 11         |
| Measurand:                                                              | BHA        | Mean:                      | 4,78 mg/kg |
| Assigned value:                                                         | 4,78 mg/kg | Reproducibility s.d.:      | 1,35 mg/kg |
| SDPA:                                                                   | 0,93 mg/kg | Rel. reproducibility s.d.: | 28,3%      |
| Rel. SDPA:                                                              | 19,5%      |                            |            |
| Range of tolerance: 2,66 - 6,91 mg/kg ( $ Z' \text{ score}  \leq 2,0$ ) |            |                            |            |



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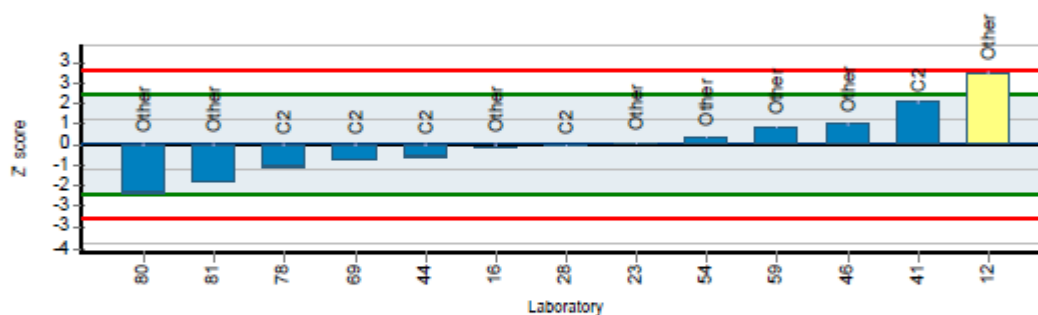
| Lab code | Lab mean | Z' score | Analytical method    | Comment             |
|----------|----------|----------|----------------------|---------------------|
| 12       | 5,52     | 0,7      | Other : Other        | Quechers, LC-MSMS   |
| 16       | 5,57     | 0,7      | Other : Other        |                     |
| 23       | 6,00     | 1,1      | Other : Other        |                     |
| 28       | 4,38     | 0,4      | C2: AOAC 983.15-1994 | 221th Ed.           |
| 41       | 3,65     | -1,1     | C2: AOAC 983.15-1994 |                     |
| 44       | 6,44     | 1,6      | C2: AOAC 983.15-1994 |                     |
| 54       | 4,10     | -0,6     | Other : Other        | AOAC 983.15, 996.13 |

## 2.-DETERMINACIÓN DE BHT EN ALIMENTO PARA PECES



### Aquaculture ring test 2026-Final Report: Fish Feed

|                                                                            |             |                            |             |
|----------------------------------------------------------------------------|-------------|----------------------------|-------------|
| Sample:                                                                    | Fish feed   | No. of laboratories:       | 13          |
| Measurand:                                                                 | BHT         | Mean:                      | 14,70 mg/kg |
| Assigned value:                                                            | 14,70 mg/kg | Reproducibility s.d.:      | 3,30 mg/kg  |
| SDPA:                                                                      | 2,35 mg/kg  | Rel. reproducibility s.d.: | 22,4%       |
| Rel. SDPA:                                                                 | 16,0%       |                            |             |
| Range of tolerance: 9,47 - 19,92 mg/kg ( $ Z'  \text{ score}   \leq 2,0$ ) |             |                            |             |



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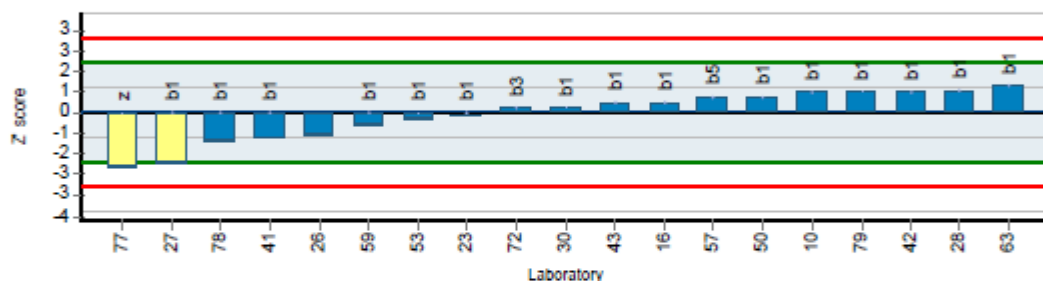
| Lab code | Lab mean | Z' score | Analytical method    | Comment             |
|----------|----------|----------|----------------------|---------------------|
| 12       | 22,23    | 2,9      | Other : Other        | Quechers, LC-MSMS   |
| 16       | 14,53    | -0,1     | Other : Other        |                     |
| 23       | 15,00    | 0,1      | Other : Other        |                     |
| 28       | 14,72    | 0,0      | C2: AOAC 983.15-1994 |                     |
| 41       | 19,04    | 1,7      | C2: AOAC 983.15-1994 |                     |
| 44       | 13,45    | -0,5     | C2: AOAC 983.15-1994 | 221n Ed.            |
| 46       | 16,90    | 0,8      | Other : Other        | extraction with     |
| 54       | 15,42    | 0,3      | Other : Other        | AOAC 983.15, 996.13 |
| 59       | 16,41    | 0,7      | Other : Other        | LC-MS               |

### 3.-DETERMINACIÓN DE MATERIA GRASA CON HIDRÓLISIS EN ALIMENTO PARA PECES



Aquaculture ring test 2026-Final Report: Fish Feed

|                                                                            |                      |                            |              |
|----------------------------------------------------------------------------|----------------------|----------------------------|--------------|
| Sample:                                                                    | Fish feed            | No. of laboratories:       | 19           |
| Measurand:                                                                 | Fat, acid hydrolysis | Mean:                      | 27,00 g/100g |
| Assigned value:                                                            | 27,00 g/100g         | Reproducibility s.d.:      | 1,20 g/100g  |
| SDPA:                                                                      | 1,22 g/100g          | Rel. reproducibility s.d.: | 4,4%         |
| Rel. SDPA:                                                                 | 4,5%                 |                            |              |
| Range of tolerance: 24,48 - 29,53 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                      |                            |              |



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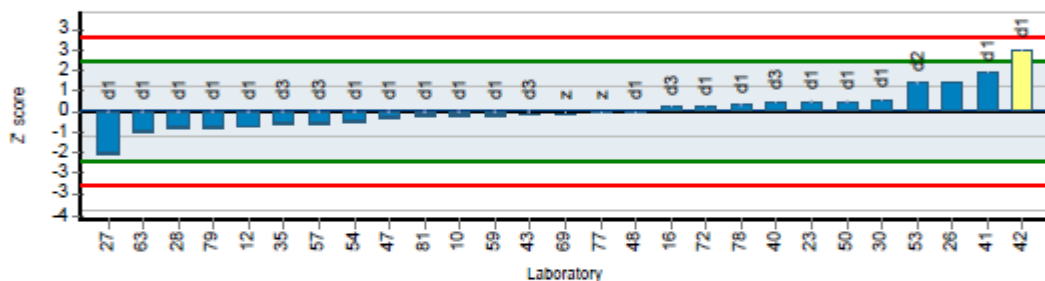
| Lab code | Lab mean | Z' score | Analytical method   | Comment |
|----------|----------|----------|---------------------|---------|
| 10       | 27,98    | 0,8      | b1: Petroleum ether |         |
| 16       | 27,55    | 0,4      | b1: Petroleum ether |         |
| 23       | 26,90    | -0,1     | b1: Petroleum ether |         |
| 26       | 25,90    | -0,9     |                     |         |
| 27       | 24,30    | -2,1     | b1: Petroleum ether |         |
| 28       | 28,17    | 0,9      | b1: Petroleum ether |         |
| 30       | 27,21    | -0,2     | b1: Petroleum ether |         |
| 41       | 25,78    | -1,0     | b1: Petroleum ether |         |
| 42       | 28,06    | 0,8      | b1: Petroleum ether |         |
| 43       | 27,45    | 0,4      | b1: Petroleum ether |         |
| 50       | 27,80    | 0,6      | b1: Petroleum ether |         |
| 53       | 26,64    | -0,3     | b1: Petroleum ether |         |

#### 4.-DETERMINACIÓN DE HUMEDAD EN ALIMENTO PARA PECES



Aquaculture ring test 2026-Final Report: Fish Feed

|                                                                          |             |                            |             |
|--------------------------------------------------------------------------|-------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed   | No. of laboratories:       | 27          |
| Measurand:                                                               | Moisture    | Mean:                      | 5,59 g/100g |
| Assigned value:                                                          | 5,59 g/100g | Reproducibility s.d.:      | 0,20 g/100g |
| SDPA:                                                                    | 0,30 g/100g | Rel. reproducibility s.d.: | 3,6%        |
| Rel. SDPA:                                                               | 5,4%        |                            |             |
| Range of tolerance: 4,98 - 6,20 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |             |                            |             |



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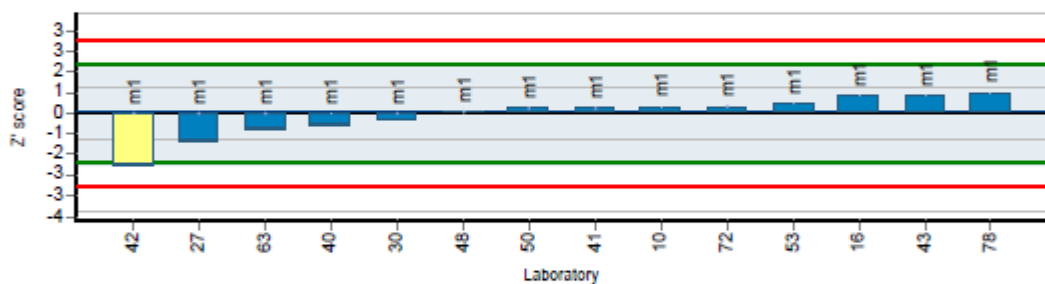
| Lab code | Lab mean | Z' score | Analytical method     | Comment |
|----------|----------|----------|-----------------------|---------|
| 10       | 5,54     | -0,2     | d1: 102-105°C (4-18h) |         |
| 12       | 5,39     | -0,6     | d1: 102-105°C (4-18h) |         |
| 16       | 5,65     | 0,2      | d3: 104°C (3-4h)      |         |
| 23       | 5,70     | 0,4      | d1: 102-105°C (4-18h) |         |
| 26       | 5,95     | 1,2      |                       |         |
| 27       | 5,07     | -1,7     | d1: 102-105°C (4-18h) |         |
| 28       | 5,37     | -0,7     | d1: 102-105°C (4-18h) |         |
| 30       | 5,75     | 0,5      | d1: 102-105°C (4-18h) |         |
| 35       | 5,43     | -0,5     | d3: 104°C (3-4h)      |         |
| 40       | 5,70     | 0,4      | d3: 104°C (3-4h)      |         |
| 41       | 6,06     | 1,6      | d1: 102-105°C (4-18h) |         |
| 42       | 6,37     | 2,5      | d1: 102-105°C (4-18h) |         |
| 43       | 5,55     | -0,1     | d3: 104°C (3-4h)      |         |

## 5.-DETERMINACIÓN DE PROTEINA EN ALIMENTO PARA PECES



Aquaculture ringt est 2026-Final Report Fish Feed

|                     |                                                        |                            |              |
|---------------------|--------------------------------------------------------|----------------------------|--------------|
| Sample:             | Fish feed                                              | No. of laboratories:       | 14           |
| Measurand:          | Protein (factor 6.25) - Kjeldahl                       | Mean:                      | 42,00 g/100g |
| Assigned value:     | 42,00 g/100g                                           | Reproducibility s.d.:      | 0,64 g/100g  |
| SDPA:               | 0,84 g/100g                                            | Rel. reproducibility s.d.: | 1,5%         |
| Rel. SDPA:          | 2,0%                                                   |                            |              |
| Range of tolerance: | 40,27 - 43,73 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                            |              |



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| Lab code | Lab mean | Z' score | Analytical method | Comment |
|----------|----------|----------|-------------------|---------|
| 10       | 42,23    | 0,3      | m1: Kjeldahl      |         |
| 16       | 42,62    | 0,7      | m1: Kjeldahl      |         |
| 27       | 41,02    | -1,1     | m1: Kjeldahl      |         |
| 30       | 41,74    | -0,3     | m1: Kjeldahl      |         |
| 40       | 41,53    | 0,5      | m1: Kjeldahl      |         |
| 41       | 42,20    | 0,2      | m1: Kjeldahl      |         |
| 42       | 40,22    | -2,1     | m1: Kjeldahl      |         |
| 43       | 42,64    | 0,7      | m1: Kjeldahl      |         |

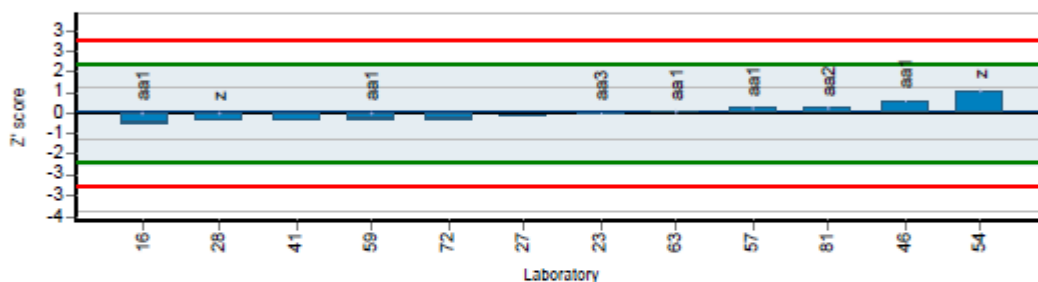
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.1 ALANINA



#### Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                            |                         |                            |             |
|----------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                    | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                                 | Alanine                 | Mean:                      | 1,57 g/100g |
| Assigned value:                                                            | 1,57 g/100g             | Reproducibility s.d.:      | 0,07 g/100g |
| SDPA:                                                                      | 0,19 g/100g             | Rel. reproducibility s.d.: | 4,3%        |
| Rel. SDPA:                                                                 | 12,1%                   |                            |             |
| Range of tolerance: 1,19 - 1,96 g/100g ( $ Z'  \text{ score}   \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                               |
|----------|----------|----------|-------------------------|---------------------------------------|
| 16       | 1,50     | -0,4     | aa1: Waters Accq-Tag    |                                       |
| 23       | 1,58     | 0,0      | aa3: NEN-ISO 13903      |                                       |
| 27       | 1,55     | -0,1     |                         |                                       |
| 28       | 1,54     | 0,3      | z: Other (Describe in   | HPLC                                  |
| 41       | 1,52     | -0,3     |                         |                                       |
| 46       | 1,66     | 0,5      | aa1: Waters Accq-Tag    | Problem with chromatographic settings |
| 54       | 1,75     | 0,9      | z: Other (Describe in   | AOAC 994.12                           |
| 57       | 1,60     | 0,2      | aa1: Waters Accq-Tag    |                                       |
| 59       | 1,54     | -0,2     | aa1: Waters Accq-Tag    |                                       |
| 63       | 1,59     | 0,1      | aa1: Waters Accq-Tag    |                                       |
| 72       | 1,54     | -0,2     |                         |                                       |
| 81       | 1,62     | 0,2      | aa2: Directive 98/64/EC |                                       |

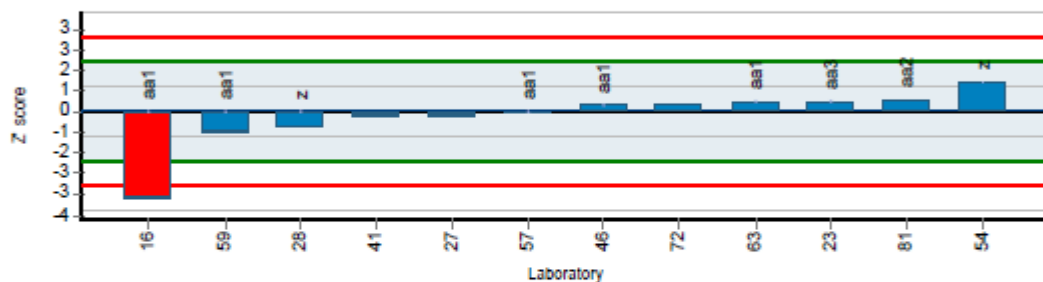
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.2 ARGININA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                               | Arginine                | Mean:                      | 2,67 g/100g |
| Assigned value:                                                          | 2,67 g/100g             | Reproducibility s.d.:      | 0,14 g/100g |
| SDPA:                                                                    | 0,19 g/100g             | Rel. reproducibility s.d.: | 5,1%        |
| Rel. SDPA:                                                               | 7,1%                    |                            |             |
| Range of tolerance: 2,27 - 3,06 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment     |
|----------|----------|----------|-------------------------|-------------|
| 16       | 1,98     | -3,5     | aa1: Waters Accq-Tag    |             |
| 23       | 2,75     | 0,4      | aa3: NEN-ISO 13903      |             |
| 27       | 2,63     | -0,2     |                         |             |
| 28       | 2,54     | -0,8     | z: Other (Describe in   | NPLC        |
| 41       | 2,62     | -0,2     |                         |             |
| 46       | 2,71     | 0,3      | aa1: Waters Accq-Tag    |             |
| 54       | 2,90     | 1,2      | z: Other (Describe in   | AOAC 994.12 |
| 57       | 2,67     | 0,0      | aa1: Waters Accq-Tag    |             |
| 59       | 2,50     | -0,8     | aa1: Waters Accq-Tag    |             |
| 63       | 2,74     | 0,4      | aa1: Waters Accq-Tag    |             |
| 72       | 2,72     | 0,3      |                         |             |
| 81       | 2,77     | 0,5      | aa2: Directive 98/64/EC |             |

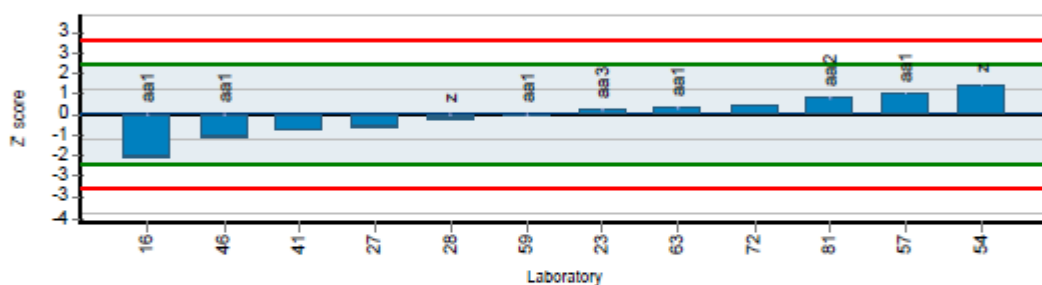
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.3 ÁCIDO ASPÁRTICO



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                               | Aspartic acid           | Mean:                      | 3,37 g/100g |
| Assigned value:                                                          | 3,37 g/100g             | Reproducibility s.d.:      | 0,18 g/100g |
| SDPA:                                                                    | 0,20 g/100g             | Rel. reproducibility s.d.: | 5,3%        |
| Rel. SDPA:                                                               | 6,0%                    |                            |             |
| Range of tolerance: 2,94 - 3,79 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment     |
|----------|----------|----------|-------------------------|-------------|
| 16       | 3,00     | -1,7     | aa1: Waters Accq-Tag    |             |
| 23       | 3,40     | 0,2      | aa3: NEN-ISO 13903      |             |
| 27       | 3,26     | -0,5     |                         |             |
| 29       | 3,33     | 0,2      | z: Other (Describe in   | HPLC        |
| 41       | 3,23     | -0,6     |                         |             |
| 46       | 3,17     | -0,9     | aa1: Waters Accq-Tag    |             |
| 54       | 3,62     | 1,2      | z: Other (Describe in   | AOAC 994.12 |
| 57       | 3,54     | 0,8      | aa1: Waters Accq-Tag    |             |
| 59       | 3,37     | 0,0      | aa1: Waters Accq-Tag    |             |
| 63       | 3,43     | 0,3      | aa1: Waters Accq-Tag    |             |
| 72       | 3,45     | 0,4      |                         |             |
| 81       | 3,50     | 0,7      | aa2: Directive 98/64/EC |             |

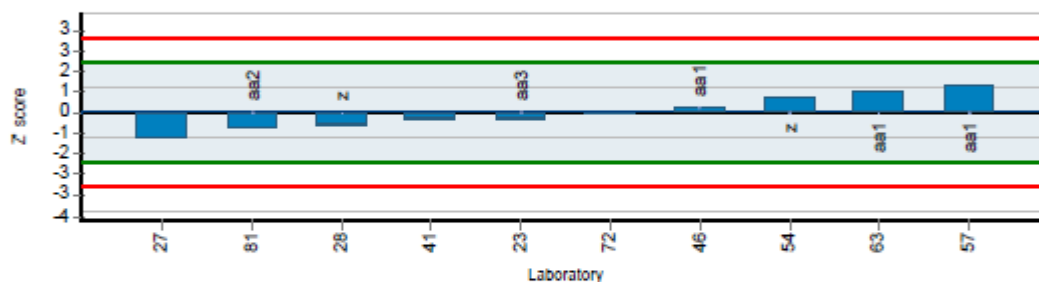
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.4 CISTEÍNA / CISTINA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 10          |
| Measurand:                                                               | Cysteine/Cystine        | Mean:                      | 0,59 g/100g |
| Assigned value:                                                          | 0,59 g/100g             | Reproducibility s.d.:      | 0,06 g/100g |
| SDPA:                                                                    | 0,08 g/100g             | Rel. reproducibility s.d.: | 10,8%       |
| Rel. SDPA:                                                               | 13,0%                   |                            |             |
| Range of tolerance: 0,43 - 0,75 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method                 | Comment |
|----------|----------|----------|-----------------------------------|---------|
| 23       | 0,57     | -0,3     | aa3: NEN-ISO 13903                |         |
| 27       | 0,51     | -1,0     |                                   |         |
| 28       | 0,55     | 0,5      | z: Other (Describe in HPLC        |         |
| 41       | 0,56     | -0,3     |                                   |         |
| 46       | 0,60     | 0,2      | aa1: Waters Accq-Tag              |         |
| 54       | 0,64     | 0,6      | z: Other (Describe in AOAC 994.12 |         |
| 57       | 0,68     | 1,1      | aa1: Waters Accq-Tag              |         |
| 63       | 0,67     | 0,9      | aa1: Waters Accq-Tag              |         |
| 72       | 0,59     | 0,0      |                                   |         |
| 81       | 0,54     | -0,6     | aa2: Directive 98/64/EC           |         |

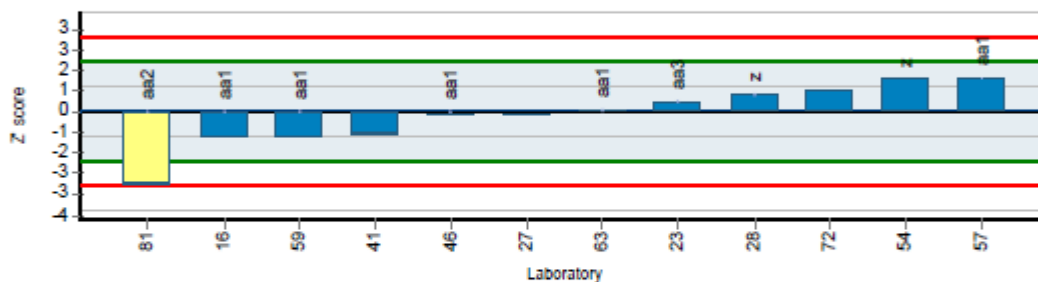
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.5 ÁCIDO GLUTAMICO



#### Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                           |                         |                            |             |
|---------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                   | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                                | Glutamic acid           | Mean:                      | 8,93 g/100g |
| Assigned value:                                                           | 8,93 g/100g             | Reproducibility s.d.:      | 0,65 g/100g |
| SDPA:                                                                     | 0,54 g/100g             | Rel. reproducibility s.d.: | 7,3%        |
| Rel. SDPA:                                                                | 6,0%                    |                            |             |
| Range of tolerance: 7,76 - 10,10 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment     |
|----------|----------|----------|-------------------------|-------------|
| 16       | 8,34     | -1,0     | aa1: Waters Accq-Tag    |             |
| 23       | 9,17     | 0,4      | aa3: NEN-ISO 13903      |             |
| 27       | 8,89     | -0,1     |                         |             |
| 26       | 9,21     | 0,7      | z: Other (Describe in   | NPLC        |
| 41       | 8,43     | -0,9     |                         |             |
| 46       | 8,88     | -0,1     | aa1: Waters Accq-Tag    |             |
| 54       | 9,67     | 1,3      | z: Other (Describe in   | AOAC 984.12 |
| 57       | 9,74     | 1,4      | aa1: Waters Accq-Tag    |             |
| 59       | 8,36     | -1,0     | aa1: Waters Accq-Tag    |             |
| 63       | 8,97     | 0,1      | aa1: Waters Accq-Tag    |             |
| 72       | 9,43     | 0,8      |                         |             |
| 81       | 7,24     | -2,9     | aa2: Directive 98/64/EC |             |

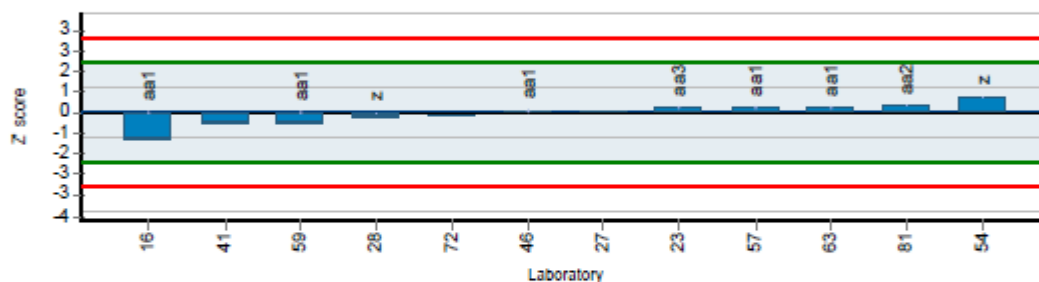
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.6 GLICINA



#### Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                               | Glycine                 | Mean:                      | 1,69 g/100g |
| Assigned value:                                                          | 1,69 g/100g             | Reproducibility s.d.:      | 0,07 g/100g |
| SDPA:                                                                    | 0,19 g/100g             | Rel. reproducibility s.d.: | 4,3%        |
| Rel. SDPA:                                                               | 11,2%                   |                            |             |
| Range of tolerance: 1,31 - 2,08 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                               |
|----------|----------|----------|-------------------------|---------------------------------------|
| 16       | 1,48     | -1,1     | aa1: Waters Accq-Tag    |                                       |
| 23       | 1,73     | 0,2      | aa3: NEN-ISO 13903      |                                       |
| 27       | 1,71     | 0,1      |                         |                                       |
| 28       | 1,68     | 0,2      | z: Other (Describe in   | HPLC                                  |
| 41       | 1,62     | -0,4     |                         |                                       |
| 46       | 1,71     | 0,1      | aa1: Waters Accq-Tag    | Problem with chromatographic settings |
| 54       | 1,81     | 0,6      | z: Other (Describe in   | AOAC 994.12                           |
| 57       | 1,73     | 0,2      | aa1: Waters Accq-Tag    |                                       |
| 59       | 1,62     | -0,4     | aa1: Waters Accq-Tag    |                                       |
| 63       | 1,73     | 0,2      | aa1: Waters Accq-Tag    |                                       |
| 72       | 1,67     | -0,1     |                         |                                       |
| 81       | 1,75     | 0,3      | aa2: Directive 98/64/EC |                                       |

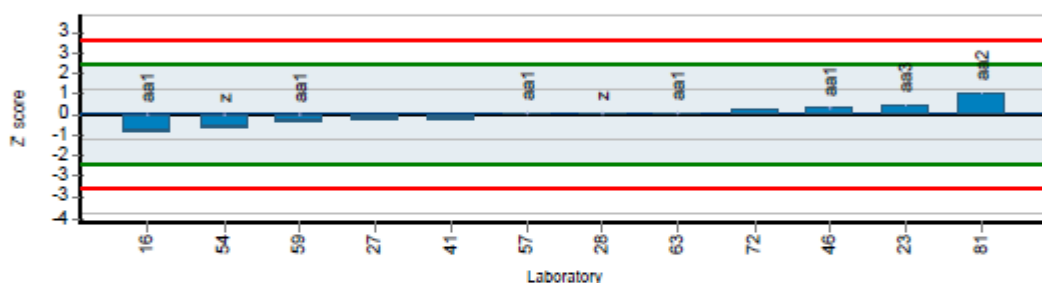
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.7 HISTIDINA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                               | Histidine               | Mean:                      | 1,03 g/100g |
| Assigned value:                                                          | 1,03 g/100g             | Reproducibility s.d.:      | 0,06 g/100g |
| SDPA:                                                                    | 0,13 g/100g             | Rel. reproducibility s.d.: | 5,4%        |
| Rel. SDPA:                                                               | 13,0%                   |                            |             |
| Range of tolerance: 0,76 - 1,30 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment     |
|----------|----------|----------|-------------------------|-------------|
| 16       | 0,94     | -0,7     | aa1: Waters Accq-Tag    |             |
| 23       | 1,08     | 0,4      | aa3: NEN-ISO 13903      |             |
| 27       | 1,00     | -0,2     |                         |             |
| 28       | 1,04     | 0,1      | z: Other (Describe in   | HPLC        |
| 41       | 1,01     | -0,2     |                         |             |
| 46       | 1,07     | 0,3      | aa1: Waters Accq-Tag    |             |
| 54       | 0,98     | -0,5     | z: Other (Describe in   | AOAC 994.12 |
| 57       | 1,04     | 0,1      | aa1: Waters Accq-Tag    |             |
| 59       | 0,99     | -0,3     | aa1: Waters Accq-Tag    |             |
| 63       | 1,04     | 0,1      | aa1: Waters Accq-Tag    |             |
| 72       | 1,06     | 0,2      |                         |             |
| 81       | 1,18     | 0,9      | aa2: Directive 98/64/EC |             |

## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.8 ISOLEUCINA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                               | Isoleucine              | Mean:                      | 1,69 g/100g |
| Assigned value:                                                          | 1,69 g/100g             | Reproducibility s.d.:      | 0,13 g/100g |
| SDPA:                                                                    | 0,19 g/100g             | Rel. reproducibility s.d.: | 7,6%        |
| Rel. SDPA:                                                               | 11,2%                   |                            |             |
| Range of tolerance: 1,30 - 2,08 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment     |
|----------|----------|----------|-------------------------|-------------|
| 16       | 2,07     | 1,9      | aa1: Waters Accq-Tag    |             |
| 23       | 1,64     | -0,3     | aa3: NEN-ISO 13903      |             |
| 27       | 1,76     | 0,4      |                         |             |
| 28       | 1,61     | 0,1      | z: Other (Describe in   | NPLC        |
| 41       | 1,71     | 0,1      |                         |             |
| 46       | 1,58     | -0,6     | aa1: Waters Accq-Tag    |             |
| 54       | 1,73     | 0,2      | z: Other (Describe in   | AOAC 994.12 |
| 57       | 1,69     | 0,0      | aa1: Waters Accq-Tag    |             |
| 59       | 1,55     | -0,7     | aa1: Waters Accq-Tag    |             |
| 63       | 1,90     | 1,0      | aa1: Waters Accq-Tag    |             |
| 72       | 1,56     | -0,7     |                         |             |
| 81       | 1,69     | 0,0      | aa2: Directive 98/64/EC |             |

## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.09 LISINA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                               | L-Lysine                | Mean:                      | 2,46 g/100g |
| Assigned value:                                                          | 2,46 g/100g             | Reproducibility s.d.:      | 0,12 g/100g |
| SDPA:                                                                    | 0,19 g/100g             | Rel. reproducibility s.d.: | 5,0%        |
| Rel. SDPA:                                                               | 7,7%                    |                            |             |
| Range of tolerance: 2,07 - 2,85 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method                 | Comment |
|----------|----------|----------|-----------------------------------|---------|
| 16       | 2,97     | 2,6      | aa1: Waters Accq-Tag              |         |
| 23       | 2,41     | -0,2     | aa3: NEN-ISO 13903                |         |
| 27       | 2,31     | -0,7     | aa1: Waters Accq-Tag              |         |
| 28       | 2,37     | -0,7     | z: Other (Describe in HPLC        |         |
| 41       | 2,41     | -0,3     | aa2: Directive 98/64/EC           |         |
| 46       | 2,66     | 0,5      | aa1: Waters Accq-Tag              |         |
| 54       | 2,58     | 0,7      | z: Other (Describe in AOAC 994.12 |         |
| 57       | 2,51     | 0,3      | aa1: Waters Accq-Tag              |         |
| 59       | 2,48     | 0,1      | aa1: Waters Accq-Tag              |         |
| 63       | 2,44     | -0,1     | aa1: Waters Accq-Tag              |         |
| 72       | 2,29     | -0,8     | aa2: Directive 98/64/EC           |         |
| 81       | 2,49     | 0,2      | aa2: Directive 98/64/EC           |         |

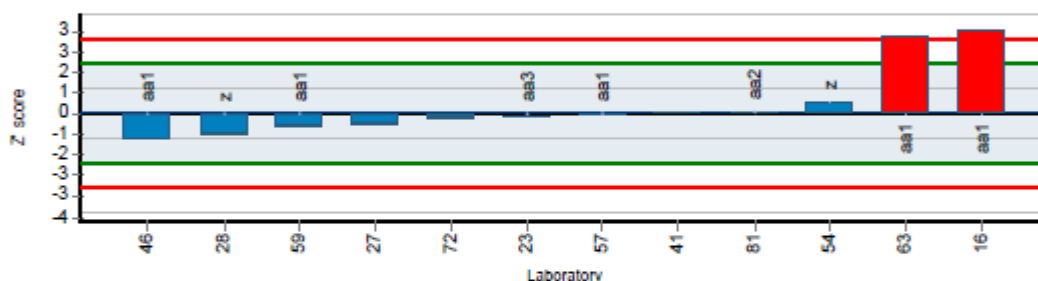
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.10 LEUCINA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                               | Leucine                 | Mean:                      | 2,89 g/100g |
| Assigned value:                                                          | 2,89 g/100g             | Reproducibility s.d.:      | 0,15 g/100g |
| SDPA:                                                                    | 0,19 g/100g             | Rel. reproducibility s.d.: | 5,1%        |
| Rel. SDPA:                                                               | 6,6%                    |                            |             |
| Range of tolerance: 2,49 - 3,28 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment     |
|----------|----------|----------|-------------------------|-------------|
| 16       | 3,55     | 3,4      | aa1: Waters Accq-Tag    |             |
| 23       | 2,86     | -0,1     | aa3: NEN-ISO 13903      |             |
| 27       | 2,81     | -0,4     |                         |             |
| 28       | 2,73     | -0,5     | z: Other (Describe in   | HPLC        |
| 41       | 2,90     | 0,1      |                         |             |
| 46       | 2,70     | -1,0     | aa1: Waters Accq-Tag    |             |
| 54       | 2,99     | 0,5      | z: Other (Describe in   | AOAC 994.12 |
| 57       | 2,89     | 0,0      | aa1: Waters Accq-Tag    |             |
| 59       | 2,79     | -0,5     | aa1: Waters Accq-Tag    |             |
| 63       | 3,50     | 3,1      | aa1: Waters Accq-Tag    |             |
| 72       | 2,84     | -0,2     |                         |             |
| 81       | 2,91     | 0,1      | aa2: Directive 98/64/EC |             |

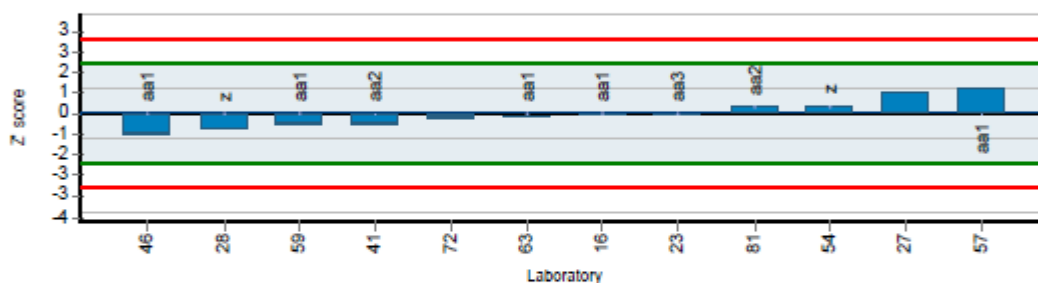
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.11 METIONINA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                               | Methionine              | Mean:                      | 0,85 g/100g |
| Assigned value:                                                          | 0,85 g/100g             | Reproducibility s.d.:      | 0,07 g/100g |
| SDPA:                                                                    | 0,11 g/100g             | Rel. reproducibility s.d.: | 8,1%        |
| Rel. SDPA:                                                               | 13,0%                   |                            |             |
| Range of tolerance: 0,62 - 1,07 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                               |
|----------|----------|----------|-------------------------|---------------------------------------|
| 16       | 0,85     | 0,0      | aa1: Waters Accq-Tag    |                                       |
| 23       | 0,85     | 0,0      | aa3: NEN-ISO 13903      |                                       |
| 27       | 0,94     | 0,8      |                         |                                       |
| 28       | 0,70     | 0,8      | z: Other (Describe in   | NPLC                                  |
| 41       | 0,80     | -0,4     | aa2: Directive 98/64/EC |                                       |
| 46       | 0,76     | -0,8     | aa1: Waters Accq-Tag    | Problem with chromatographic settings |
| 54       | 0,89     | 0,3      | z: Other (Describe in   | AOAC 994.12                           |
| 57       | 0,97     | 1,0      | aa1: Waters Accq-Tag    |                                       |
| 59       | 0,80     | -0,4     | aa1: Waters Accq-Tag    |                                       |
| 63       | 0,84     | -0,1     | aa1: Waters Accq-Tag    |                                       |
| 72       | 0,82     | -0,2     |                         |                                       |
| 81       | 0,88     | 0,3      | aa2: Directive 98/64/EC |                                       |

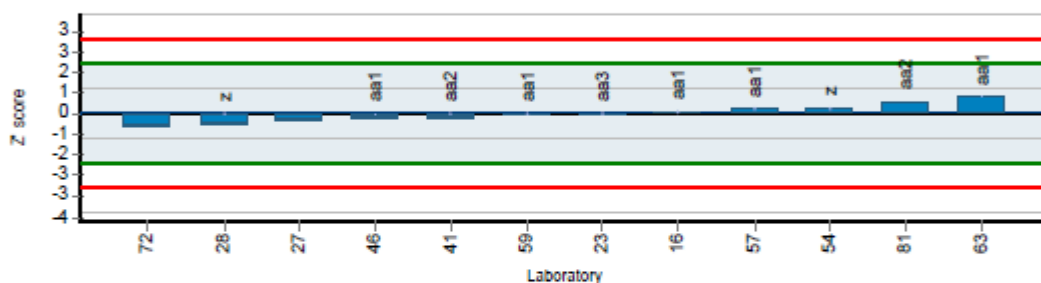
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.12 FENILALANINA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                           |                         |                            |             |
|-----------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                   | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                | Phenylalanine           | Mean:                      | 1,94 g/100g |
| Assigned value:                                           | 1,94 g/100g             | Reproducibility s.d.:      | 0,08 g/100g |
| SDPA:                                                     | 0,19 g/100g             | Rel. reproducibility s.d.: | 3,9%        |
| Rel. SDPA:                                                | 9,8%                    |                            |             |
| Range of tolerance: 1,55 - 2,32 g/100g ( Z' score  ≤ 2,0) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment     |
|----------|----------|----------|-------------------------|-------------|
| 16       | 1,96     | 0,1      | aa1: Waters Accq-Tag    |             |
| 23       | 1,94     | 0,0      | aa3: NEN-ISO 13903      |             |
| 27       | 1,88     | -0,3     |                         |             |
| 28       | 1,85     | -0,4     | z: Other (Describe in   | HLPC        |
| 41       | 1,90     | -0,2     | aa2: Directive 98/64/EC |             |
| 46       | 1,90     | -0,2     | aa1: Waters Accq-tag    |             |
| 54       | 1,98     | 0,2      | z: Other (Describe in   | AOAC 994.12 |
| 57       | 1,98     | 0,2      | aa1: Waters Accq-Tag    |             |
| 59       | 1,93     | 0,0      | aa1: Waters Accq-Tag    |             |
| 63       | 2,08     | 0,7      | aa1: Waters Accq-Tag    |             |
| 72       | 1,85     | -0,5     |                         |             |
| 81       | 2,04     | 0,5      | aa2: Directive 98/64/EC |             |

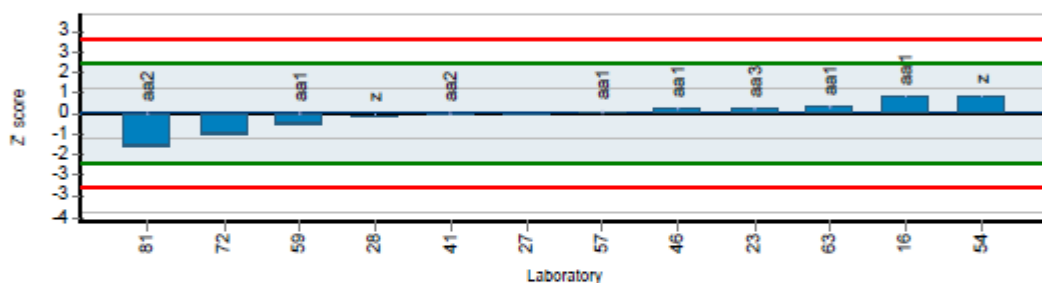
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.13 PROLINA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                               | Proline                 | Mean:                      | 2,72 g/100g |
| Assigned value:                                                          | 2,72 g/100g             | Reproducibility s.d.:      | 0,11 g/100g |
| SDPA:                                                                    | 0,19 g/100g             | Rel. reproducibility s.d.: | 4,1%        |
| Rel. SDPA:                                                               | 7,0%                    |                            |             |
| Range of tolerance: 2,33 - 3,11 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                               |
|----------|----------|----------|-------------------------|---------------------------------------|
| 16       | 2,85     | 0,7      | aa1: Waters Accq-Tag    |                                       |
| 23       | 2,78     | 0,2      | aa3: NEN-ISO 13903      |                                       |
| 27       | 2,72     | 0,0      |                         |                                       |
| 28       | 2,74     | 0,1      | z: Other (Describe in   | HPLC                                  |
| 41       | 2,71     | 0,0      | aa2: Directive 98/64/EC |                                       |
| 46       | 2,75     | 0,2      | aa1: Waters Accq-Tag    | Problem with chromatographic settings |
| 54       | 2,87     | 0,7      | z: Other (Describe in   | AOAC 994.12                           |
| 57       | 2,74     | 0,1      | aa1: Waters Accq-Tag    |                                       |
| 59       | 2,65     | -0,4     | aa1: Waters Accq-Tag    |                                       |
| 63       | 2,78     | 0,3      | aa1: Waters Accq-Tag    |                                       |
| 72       | 2,58     | -0,8     |                         |                                       |
| 81       | 2,48     | -1,3     | aa2: Directive 98/64/EC |                                       |

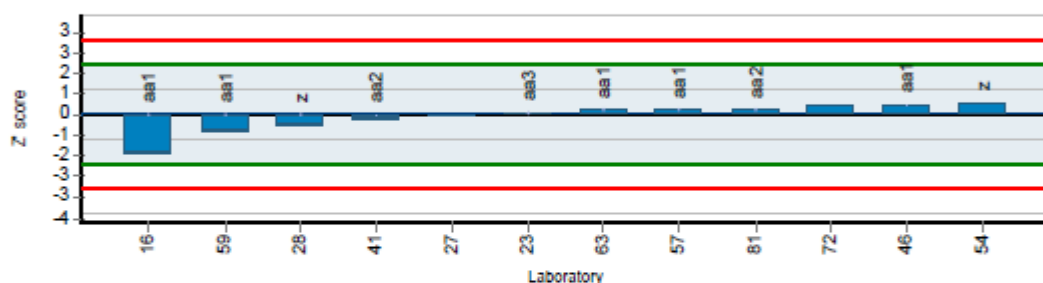
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.14 SERINA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                               | Serine                  | Mean:                      | 1,92 g/100g |
| Assigned value:                                                          | 1,92 g/100g             | Reproducibility s.d.:      | 0,09 g/100g |
| SDPA:                                                                    | 0,19 g/100g             | Rel. reproducibility s.d.: | 4,8%        |
| Rel. SDPA:                                                               | 9,9%                    |                            |             |
| Range of tolerance: 1,53 - 2,30 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment     |
|----------|----------|----------|-------------------------|-------------|
| 16       | 1,61     | -1,6     | aa1: Waters Acoq-Tag    |             |
| 23       | 1,93     | 0,1      | aa3: NEN-ISO 13903      |             |
| 27       | 1,92     | 0,0      |                         |             |
| 28       | 1,84     | -0,4     | z: Other (Describe in   | HPLC        |
| 41       | 1,88     | -0,2     | aa2: Directive 98/64/EC |             |
| 46       | 2,00     | 0,4      | aa1: Waters Acoq-Tag    |             |
| 54       | 2,01     | 0,5      | z: Other (Describe in   | AOAC 994.12 |
| 57       | 1,96     | 0,2      | aa1: Waters Acoq-Tag    |             |
| 59       | 1,79     | -0,7     | aa1: Waters Acoq-Tag    |             |
| 63       | 1,96     | 0,2      | aa1: Waters Acoq-Tag    |             |
| 72       | 1,99     | 0,4      |                         |             |
| 81       | 1,96     | 0,2      | aa2: Directive 98/64/EC |             |

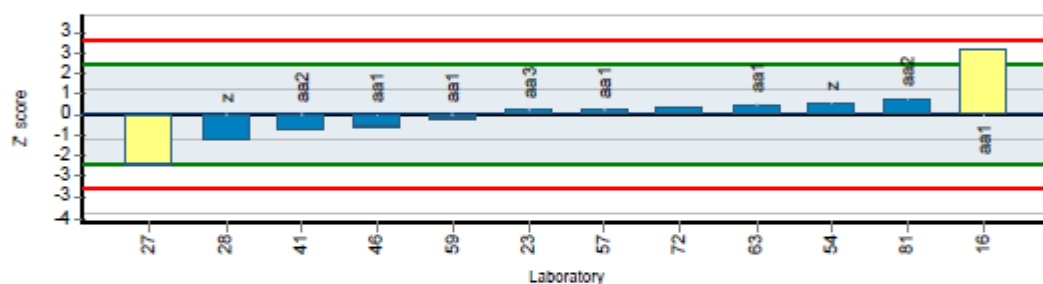
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.15 TREONINA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                               | Threonine               | Mean:                      | 1,34 g/100g |
| Assigned value:                                                          | 1,34 g/100g             | Reproducibility s.d.:      | 0,14 g/100g |
| SDPA:                                                                    | 0,17 g/100g             | Rel. reproducibility s.d.: | 10,4%       |
| Rel. SDPA:                                                               | 12,7%                   |                            |             |
| Range of tolerance: 0,99 - 1,69 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method                 | Comment |
|----------|----------|----------|-----------------------------------|---------|
| 16       | 1,80     | 2,6      | aa1: Waters Accq-Tag              |         |
| 23       | 1,38     | 0,2      | aa3: NEN-ISO 13903                |         |
| 27       | 0,97     | -2,1     |                                   |         |
| 28       | 1,17     | -1,1     | z: Other (Describe in HPLC        |         |
| 41       | 1,24     | -0,6     | aa2: Directive 98/64/EC           |         |
| 46       | 1,26     | -0,5     | aa1: Waters Accq-Tag              |         |
| 54       | 1,44     | 0,5      | z: Other (Describe in AOAC 994.12 |         |
| 57       | 1,38     | 0,2      | aa1: Waters Accq-Tag              |         |
| 59       | 1,30     | -0,2     | aa1: Waters Accq-Tag              |         |
| 63       | 1,40     | 0,4      | aa1: Waters Accq-Tag              |         |
| 72       | 1,40     | 0,3      |                                   |         |
| 81       | 1,44     | 0,6      | aa2: Directive 98/64/EC           |         |

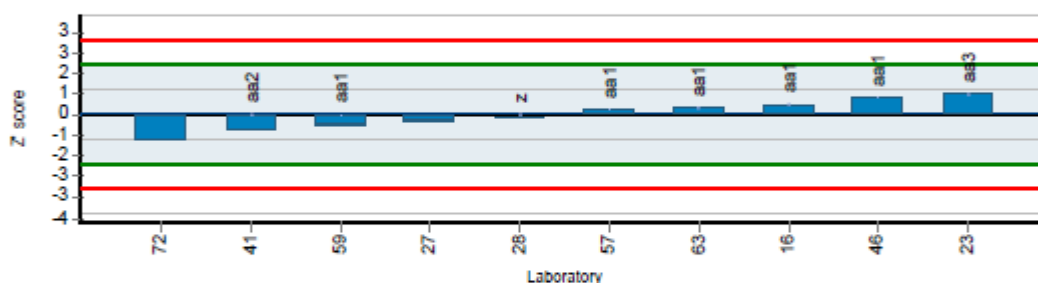
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.16 TIROSINA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                            |                         |                            |             |
|----------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                    | Fish feed - Amino acids | No. of laboratories:       | 10          |
| Measurand:                                                                 | Tyrosine                | Mean:                      | 1,32 g/100g |
| Assigned value:                                                            | 1,32 g/100g             | Reproducibility s.d.:      | 0,12 g/100g |
| SDPA:                                                                      | 0,17 g/100g             | Rel. reproducibility s.d.: | 8,8%        |
| Rel. SDPA:                                                                 | 12,8%                   |                            |             |
| Range of tolerance: 0,97 - 1,68 g/100g ( $ Z'  \text{ score}   \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method          | Comment                               |
|----------|----------|----------|----------------------------|---------------------------------------|
| 16       | 1,40     | 0,4      | aa1: Waters Accq-Tag       |                                       |
| 23       | 1,47     | 0,8      | aa3: NEN-ISO 13903         |                                       |
| 27       | 1,28     | -0,3     |                            |                                       |
| 28       | 1,33     | -0,1     | 2. Other (Describe in NPLS |                                       |
| 41       | 1,22     | -0,6     | aa2: Directive 98/64/EC    |                                       |
| 46       | 1,44     | 0,7      | aa1: Waters Accq-Tag       | Problem with chromatographic settings |
| 57       | 1,35     | 0,2      | aa1: Waters Accq-Tag       |                                       |
| 59       | 1,25     | -0,4     | aa1: Waters Accq-Tag       |                                       |
| 63       | 1,37     | 0,3      | aa1: Waters Accq-Tag       |                                       |
| 72       | 1,15     | -1,0     |                            |                                       |

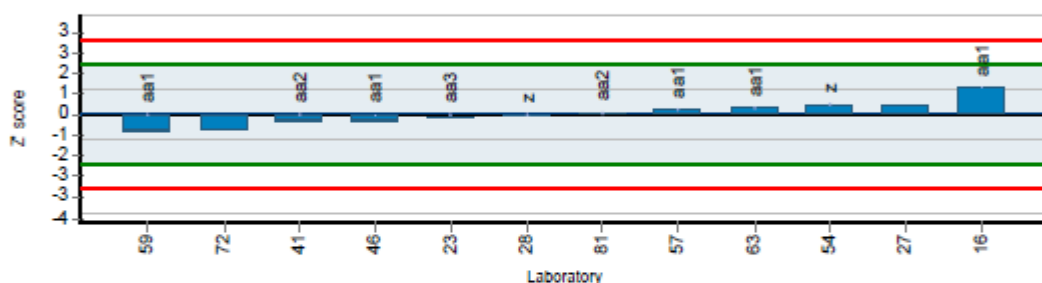
## 6.-DETERMINACIÓN DE AMINOÁCIDOS EN ALIMENTO PARA PECES

### 6.17 VALINA



Aquaculture ring test 2026-Final Report: Fish Feed Aminoacids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Amino acids | No. of laboratories:       | 12          |
| Measurand:                                                               | Valine                  | Mean:                      | 1,79 g/100g |
| Assigned value:                                                          | 1,79 g/100g             | Reproducibility s.d.:      | 0,09 g/100g |
| SDPA:                                                                    | 0,19 g/100g             | Rel. reproducibility s.d.: | 5,3%        |
| Rel. SDPA:                                                               | 10,6%                   |                            |             |
| Range of tolerance: 1,40 - 2,17 g/100g ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                               |
|----------|----------|----------|-------------------------|---------------------------------------|
| 16       | 2,01     | 1,1      | aa1: Waters Accq-Tag    |                                       |
| 23       | 1,77     | -0,1     | aa3: NEN-ISO 13903      |                                       |
| 27       | 1,88     | 0,4      |                         |                                       |
| 28       | 1,78     | 0,0      | z: Other (Describe in   | HPLC                                  |
| 41       | 1,73     | -0,3     | aa2: Directive 98/64/EC |                                       |
| 46       | 1,73     | -0,3     | aa1: Waters Accq-Tag    | Problem with chromatographic settings |
| 54       | 1,88     | 0,4      | z: Other (Describe in   | AOAC 994.12                           |
| 57       | 1,82     | 0,2      | aa1: Waters Accq-Tag    |                                       |
| 59       | 1,65     | -0,7     | aa1: Waters Accq-Tag    |                                       |
| 63       | 1,84     | 0,3      | aa1: Waters Accq-Tag    |                                       |
| 72       | 1,68     | -0,6     |                         |                                       |
| 81       | 1,80     | 0,1      | aa2: Directive 98/64/EC |                                       |

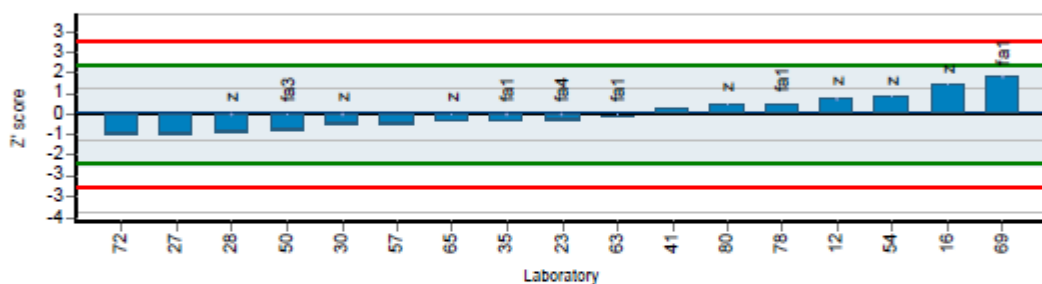
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.1 C14:0



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Fatty acids | No. of laboratories:       | 17          |
| Measurand:                                                               | C14:0                   | Mean:                      | 2,53 area % |
| Assigned value:                                                          | 2,53 area %             | Reproducibility s.d.:      | 0,14 area % |
| SDPA:                                                                    | 0,20 area %             | Rel. reproducibility s.d.: | 5,6%        |
| Rel. SDPA:                                                               | 8,0%                    |                            |             |
| Range of tolerance: 2,12 - 2,95 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 2,67     | 0,6      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 2,78     | 1,2      | z: Other (Describe in   |                             |
| 23       | 2,50     | -0,2     | fa4: ISO/TS 17764-1 and |                             |
| 27       | 2,38     | -0,8     |                         |                             |
| 28       | 2,39     | -0,7     | z: Other (Describe in   | GC                          |
| 30       | 2,46     | -0,4     | z: Other (Describe in   | In house GD-FID method      |
| 35       | 2,47     | 0,3      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 2,58     | 0,2      |                         |                             |
| 50       | 2,41     | -0,6     | fa3: AOCS Ce 11-07      |                             |
| 54       | 2,68     | 0,7      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 2,46     | -0,4     |                         |                             |
| 63       | 2,51     | -0,1     | fa1: AOCS Ce 1b-89      |                             |
| 65       | 2,46     | -0,3     | z: Other (Describe in   | Direct trans-esterification |
| 69       | 2,84     | 1,5      | fa1: AOCS Ce 1b-89      |                             |

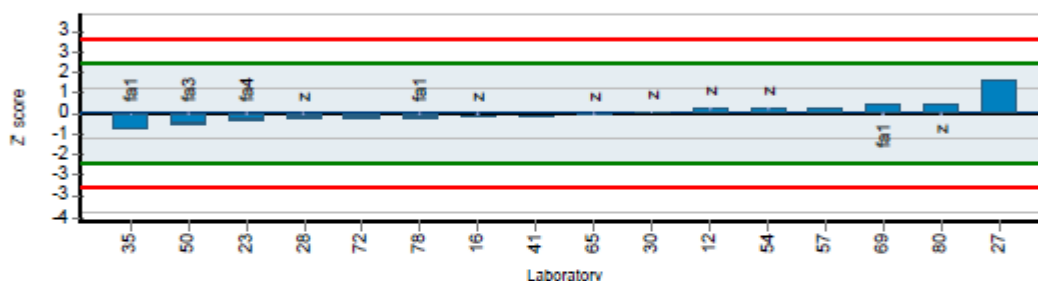
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.2 C15:0



#### Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Fatty acids | No. of laboratories:       | 16          |
| Measurand:                                                               | C15:0                   | Mean:                      | 0,21 area % |
| Assigned value:                                                          | 0,21 area %             | Reproducibility s.d.:      | 0,01 area % |
| SDPA:                                                                    | 0,04 area %             | Rel. reproducibility s.d.: | 6,2%        |
| Rel. SDPA:                                                               | 18,9%                   |                            |             |
| Range of tolerance: 0,13 - 0,29 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 0,22     | 0,2      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 0,21     | -0,1     | z: Other (Describe in   |                             |
| 23       | 0,20     | -0,3     | fa4: ISO/TS 17764-1 and |                             |
| 27       | 0,26     | 1,3      |                         |                             |
| 28       | 0,20     | -0,2     | z: Other (Describe in   | GC                          |
| 30       | 0,22     | 0,1      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 0,19     | 0,8      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 0,21     | -0,1     |                         |                             |
| 50       | 0,20     | -0,4     | fa3: AOCS Ce 11-07      |                             |
| 54       | 0,22     | 0,2      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 0,22     | 0,2      |                         |                             |
| 65       | 0,21     | 0,0      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 0,23     | 0,4      | fa1: AOCS Ce 1b-89      |                             |
| 72       | 0,21     | -0,2     |                         |                             |
| 78       | 0,21     | -0,2     | fa1: AOCS Ce 1b-89      |                             |
| 80       | 0,23     | 0,4      | z: Other (Describe in   | Método Interno              |

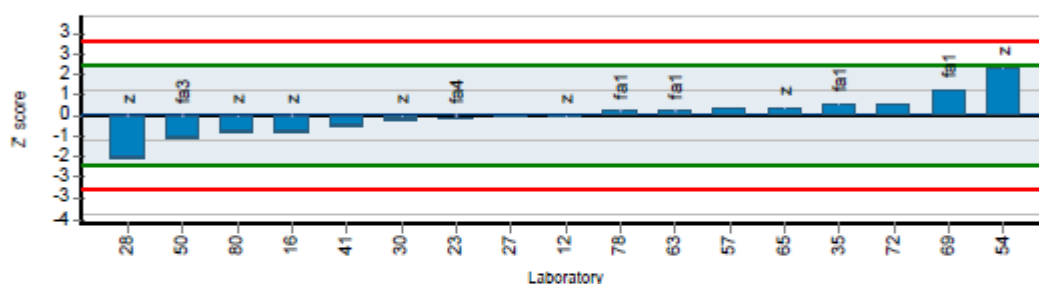
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.3 C16:0



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                           |                         |                            |              |
|---------------------------------------------------------------------------|-------------------------|----------------------------|--------------|
| Sample:                                                                   | Fish feed - Fatty acids | No. of laboratories:       | 17           |
| Measurand:                                                                | C16:0                   | Mean:                      | 10,02 area % |
| Assigned value:                                                           | 10,02 area %            | Reproducibility s.d.:      | 0,28 area %  |
| SDPA:                                                                     | 0,40 area %             | Rel. reproducibility s.d.: | 2,8%         |
| Rel. SDPA:                                                                | 4,0%                    |                            |              |
| Range of tolerance: 9,20 - 10,84 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |              |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 10,03    | 0,0      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 9,75     | -0,7     | z: Other (Describe in   |                             |
| 23       | 10,00    | -0,1     | fa4: ISO/TS 17764-1 and |                             |
| 27       | 10,01    | 0,0      |                         |                             |
| 28       | 9,31     | -1,7     | z: Other (Describe in   | GC                          |
| 30       | 9,95     | -0,2     | z: Other (Describe in   | In house GD-FID method      |
| 35       | 10,23    | 0,5      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 9,87     | -0,4     |                         |                             |
| 50       | 9,64     | -0,8     | fa3: AOCS Ce 1b-07      |                             |
| 54       | 10,79    | 1,9      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 10,14    | 0,3      |                         |                             |
| 63       | 10,12    | 0,2      | fa1: AOCS Ce 1b-89      |                             |
| 65       | 10,14    | 0,3      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 10,41    | 1,0      | fa1: AOCS Ce 1b-89      |                             |
| 72       | 10,23    | 0,5      |                         |                             |

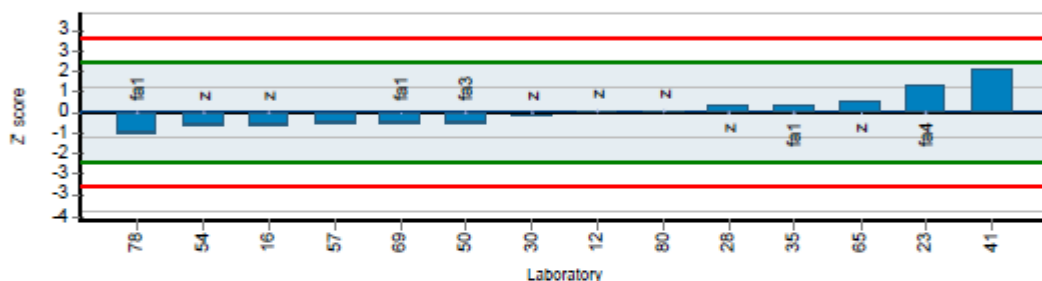
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.4 C17:0



#### Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Fatty acids | No. of laboratories:       | 14          |
| Measurand:                                                               | C17:0                   | Mean:                      | 0,25 area % |
| Assigned value:                                                          | 0,25 area %             | Reproducibility s.d.:      | 0,03 area % |
| SDPA:                                                                    | 0,04 area %             | Rel. reproducibility s.d.: | 10,2%       |
| Rel. SDPA:                                                               | 15,8%                   |                            |             |
| Range of tolerance: 0,17 - 0,34 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 0,26     | 0,1      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 0,23     | -0,5     | z: Other (Describe in   |                             |
| 23       | 0,30     | 1,1      | fa4: ISO/TS 17764-1 and |                             |
| 28       | 0,26     | 0,3      | z: Other (Describe in   | GC                          |
| 30       | 0,25     | -0,1     | z: Other (Describe in   | In house GD-FID method      |
| 35       | 0,27     | 0,3      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 0,33     | 1,7      | fa1: AOCS Ce 1b-89      |                             |
| 50       | 0,24     | -0,4     | fa3: AOCS Ce 1b-07      |                             |
| 54       | 0,23     | -0,5     | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 0,24     | -0,4     |                         |                             |
| 65       | 0,28     | 0,5      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 0,24     | -0,4     | fa1: AOCS Ce 1b-89      |                             |
| 78       | 0,22     | -0,8     | fa1: AOCS Ce 1b-89      |                             |
| 80       | 0,26     | 0,1      | z: Other (Describe in   | Método Interno              |

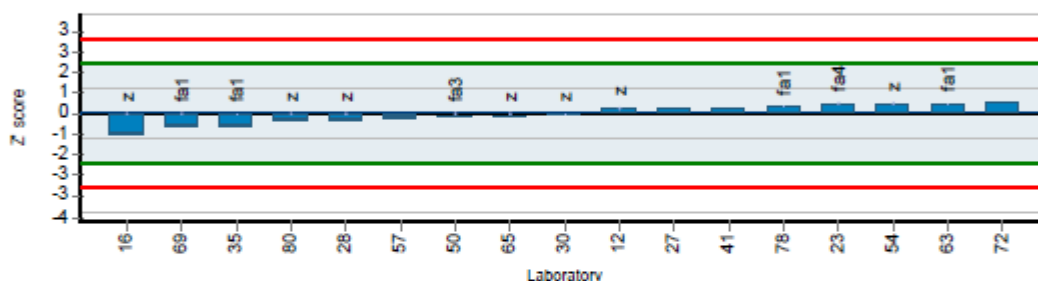
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.5 C18:0



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Fatty acids | No. of laboratories:       | 17          |
| Measurand:                                                               | C18:0                   | Mean:                      | 3,49 area % |
| Assigned value:                                                          | 3,49 area %             | Reproducibility s.d.:      | 0,12 area % |
| SDPA:                                                                    | 0,28 area %             | Rel. reproducibility s.d.: | 3,4%        |
| Rel. SDPA:                                                               | 8,0%                    |                            |             |
| Range of tolerance: 2,93 - 4,06 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 3,54     | 0,2      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 3,28     | -0,8     | z: Other (Describe in   |                             |
| 23       | 3,60     | 0,4      | fa4: ISO/TS 17764-1 and |                             |
| 27       | 3,55     | 0,2      |                         |                             |
| 28       | 3,41     | -0,3     | z: Other (Describe in   | GC                          |
| 30       | 3,48     | 0,0      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 3,38     | 0,5      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 3,56     | 0,2      |                         |                             |
| 50       | 3,47     | -0,1     | fa3: AOCS Ce 11-07      |                             |
| 54       | 3,61     | 0,4      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 3,45     | -0,2     |                         |                             |
| 63       | 3,62     | 0,4      | fa1: AOCS Ce 1b-89      |                             |
| 65       | 3,47     | -0,1     | z: Other (Describe in   | Direct trans-esterification |
| 69       | 3,35     | -0,5     | fa1: AOCS Ce 1b-89      |                             |
| 72       | 3,63     | 0,5      |                         |                             |

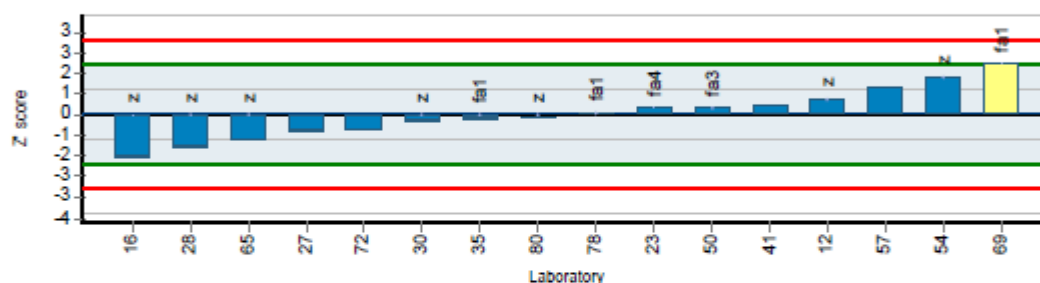
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.6 C18:1 n-9



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                            |                         |                            |              |
|----------------------------------------------------------------------------|-------------------------|----------------------------|--------------|
| Sample:                                                                    | Fish feed - Fatty acids | No. of laboratories:       | 16           |
| Measurand:                                                                 | C18:1 n-9               | Mean:                      | 39,97 area % |
| Assigned value:                                                            | 39,97 area %            | Reproducibility s.d.:      | 1,80 area %  |
| SDPA:                                                                      | 1,60 area %             | Rel. reproducibility s.d.: | 4,5%         |
| Rel. SDPA:                                                                 | 4,0%                    |                            |              |
| Range of tolerance: 36,58 - 43,37 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |              |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 40,94    | 0,6      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 37,01    | -1,7     | z: Other (Describe in   |                             |
| 23       | 40,40    | 0,3      | fa4: ISO/TS 17764-1 and |                             |
| 27       | 38,76    | -0,7     |                         |                             |
| 28       | 37,71    | -1,3     | z: Other (Describe in   | GC                          |
| 30       | 39,41    | -0,3     | z: Other (Describe in   | In house GD-FID method      |
| 35       | 39,79    | 0,2      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 40,72    | 0,4      |                         |                             |
| 50       | 40,46    | 0,3      | fa3: AOCS Ce 11-07      |                             |
| 54       | 42,60    | 1,5      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 41,78    | 1,1      |                         |                             |
| 65       | 38,20    | -1,0     | z: Other (Describe in   | Direct trans-esterification |
| 69       | 43,56    | 2,1      | fa1: AOCS Ce 1b-89      |                             |
| 72       | 38,96    | -0,6     |                         |                             |

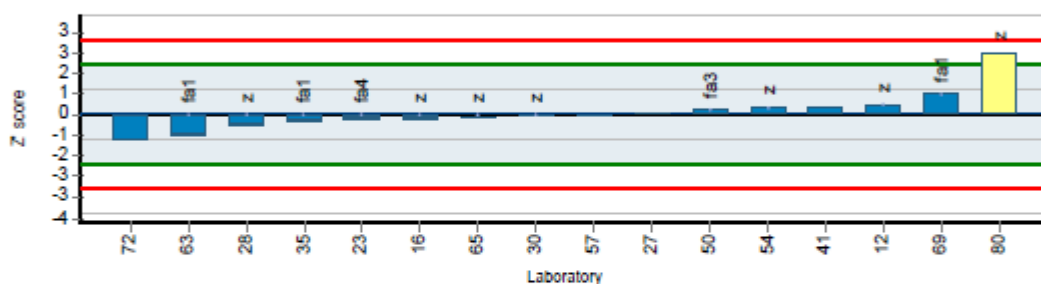
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.7 C18:3 n-3



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                            |                         |                            |             |
|------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                    | Fish feed - Fatty acids | No. of laboratories:       | 16          |
| Measurand:                                                 | C18:3 n-3               | Mean:                      | 6,48 area % |
| Assigned value:                                            | 6,48 area %             | Reproducibility s.d.:      | 0,21 area % |
| SDPA:                                                      | 0,40 area %             | Rel. reproducibility s.d.: | 3,3%        |
| Rel. SDPA:                                                 | 6,2%                    |                            |             |
| Range of tolerance: 5,67 - 7,29 area % ( Z' score  <= 2,0) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 6,63     | 0,4      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 6,41     | -0,2     | z: Other (Describe in   |                             |
| 23       | 6,40     | -0,2     | fa4: ISO/TS 17764-1 and |                             |
| 27       | 6,51     | 0,1      |                         |                             |
| 28       | 6,31     | -0,4     | z: Other (Describe in   | GC                          |
| 30       | 6,47     | 0,0      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 6,37     | 0,2      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 6,62     | 0,3      |                         |                             |
| 50       | 6,58     | 0,2      | fa3: AOCS Ce 1b-07      |                             |
| 54       | 6,60     | 0,3      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 6,48     | 0,0      |                         |                             |
| 63       | 6,14     | -0,8     | fa1: AOCS Ce 1b-89      |                             |
| 65       | 6,43     | -0,1     | z: Other (Describe in   | Direct trans-esterification |
| 69       | 6,79     | 0,8      | fa1: AOCS Ce 1b-89      |                             |
| 72       | 6,09     | -1,0     |                         |                             |

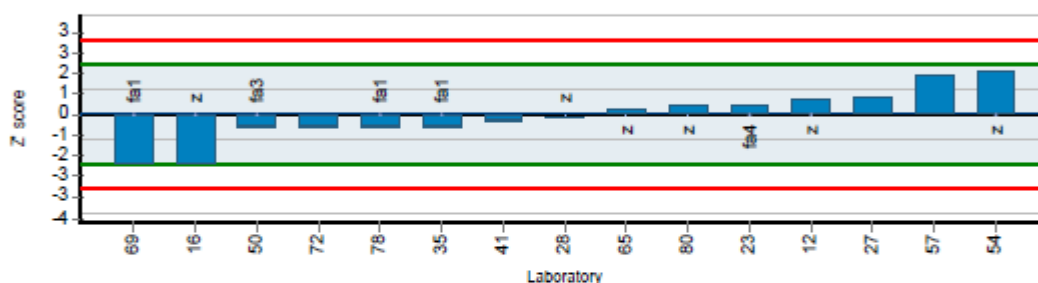
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.8 C18:3 n-6



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                            |                         |                            |             |
|----------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                    | Fish feed - Fatty acids | No. of laboratories:       | 15          |
| Measurand:                                                                 | C18:3 n-6               | Mean:                      | 0,09 area % |
| Assigned value:                                                            | 0,09 area %             | Reproducibility s.d.:      | 0,02 area % |
| SDPA:                                                                      | 0,02 area %             | Rel. reproducibility s.d.: | 26,3%       |
| Rel. SDPA:                                                                 | 22,1%                   |                            |             |
| Range of tolerance: 0,05 - 0,13 area % ( $ Z'  \text{ score}   \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 0,10     | 0,6      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 0,05     | -2,0     | z: Other (Describe in   |                             |
| 23       | 0,10     | 0,4      | fa4: ISO/TS 17784-1 and |                             |
| 27       | 0,11     | 0,7      |                         |                             |
| 28       | 0,09     | -0,1     | z: Other (Describe in   | GC                          |
| 30       | 0,11     |          | z: Other (Describe in   | In house GD-FID method      |
| 35       | 0,09     | 0,5      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 0,08     | -0,3     |                         |                             |
| 50       | 0,08     | -0,5     | fa3: AOCS Ce 1i-07      |                             |
| 54       | 0,13     | 1,7      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 0,13     | 1,6      |                         |                             |
| 65       | 0,10     | 0,2      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 0,05     | -2,0     | fa1: AOCS Ce 1b-89      |                             |
| 72       | 0,08     | -0,5     |                         |                             |
| 78       | 0,08     | -0,5     | fa1: AOCS Ce 1b-89      |                             |

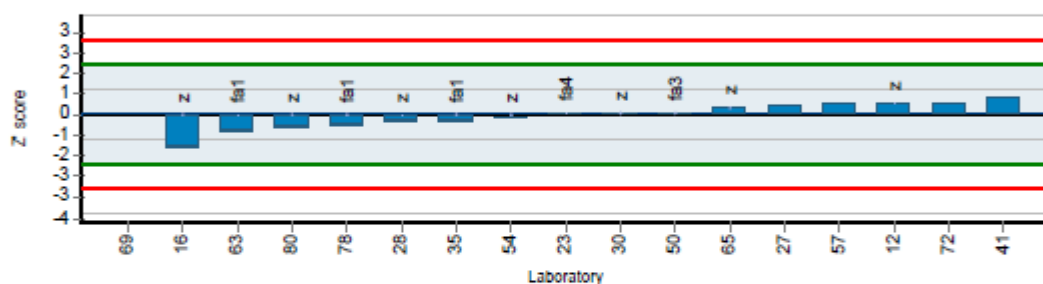
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.9 C20:0



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Fatty acids | No. of laboratories:       | 16          |
| Measurand:                                                               | C20:0                   | Mean:                      | 0,69 area % |
| Assigned value:                                                          | 0,69 area %             | Reproducibility s.d.:      | 0,04 area % |
| SDPA:                                                                    | 0,07 area %             | Rel. reproducibility s.d.: | 5,4%        |
| Rel. SDPA:                                                               | 10,0%                   |                            |             |
| Range of tolerance: 0,55 - 0,84 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 0,73     | 0,5      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 0,60     | -1,3     | z: Other (Describe in   |                             |
| 23       | 0,70     | 0,1      | fa4: ISO/TS 17784-1 and |                             |
| 27       | 0,72     | 0,4      |                         |                             |
| 28       | 0,67     | -0,3     | z: Other (Describe in   | GC                          |
| 30       | 0,70     | 0,1      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 0,67     | 0,3      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 0,74     | 0,7      |                         |                             |
| 50       | 0,70     | 0,1      | fa3: AOCS Ce 1b-07      |                             |
| 54       | 0,69     | -0,1     | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 0,73     | 0,5      |                         |                             |
| 63       | 0,65     | -0,7     | fa1: AOCS Ce 1b-89      |                             |
| 65       | 0,71     | 0,3      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 0,06     |          | fa1: AOCS Ce 1b-89      | z'-score > 5                |

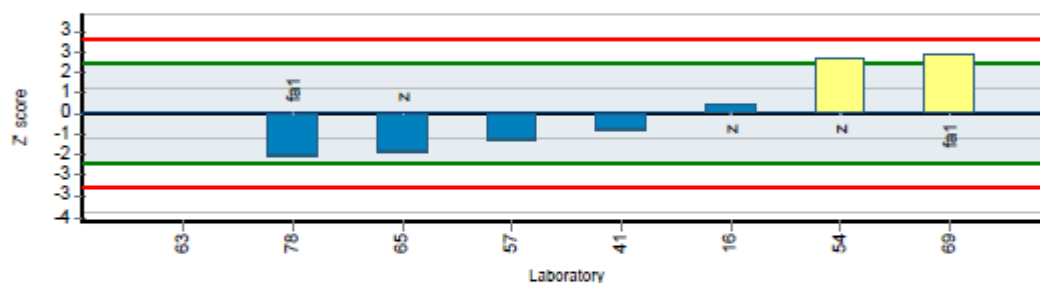
## DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.10 C20:3 n-3



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                           |                         |                            |             |
|---------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                   | Fish feed - Fatty acids | No. of laboratories:       | 7           |
| Measurand:                                                                | C20:3 n-3               | Mean:                      | 0,22 area % |
| Assigned value:                                                           | 0,22 area %             | Reproducibility s.d.:      | 0,23 area % |
| SDPA:                                                                     | 0,04 area %             | Rel. reproducibility s.d.: | 105,5%      |
| Rel. SDPA:                                                                | 20,0%                   |                            |             |
| Range of tolerance: -0,02 - 0,45 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | <0,10    |          | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 0,26     | 0,4      | z: Other (Describe in   |                             |
| 23       | <0,10    |          | fa4: ISO/TS 17764-1 and |                             |
| 27       |          |          |                         |                             |
| 28       | <0,10    |          | z: Other (Describe in   | GC                          |
| 30       | <0,10    |          | z: Other (Describe in   | In-house GC-FID method      |
| 41       | 0,13     | -0,7     |                         |                             |
| 50       | <0,05    |          | fa3: AOCS Ce 11b-07     |                             |
| 54       | 0,48     | 2,3      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 0,09     | -1,1     |                         |                             |
| 63       | 0,00     |          | fa1: AOCS Ce 1b-89      |                             |
| 65       | 0,04     | -1,6     | z: Other (Describe in   | Direct trans-esterification |
| 69       | 0,50     | 2,4      | fa1: AOCS Ce 1b-89      |                             |

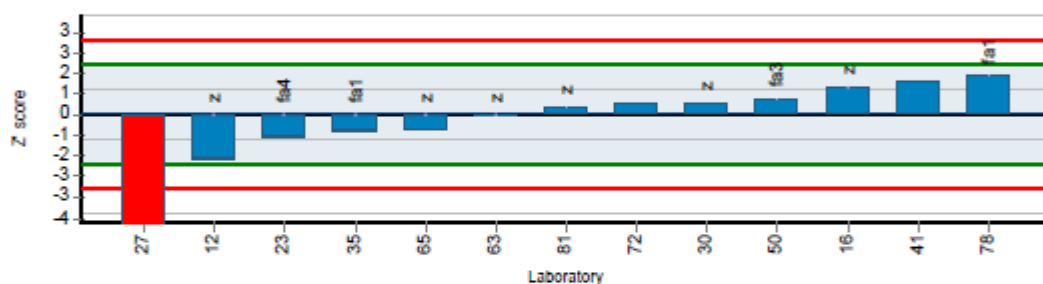
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.11 C20:5 n-3 (EPA) abs



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                               |                         |                            |                |
|-------------------------------------------------------------------------------|-------------------------|----------------------------|----------------|
| Sample:                                                                       | Fish feed - Fatty acids | No. of laboratories:       | 13             |
| Measurand:                                                                    | C20:5 n-3 (EPA) abs     | Mean:                      | 8,21 mg/g feed |
| Assigned value:                                                               | 8,21 mg/g feed          | Reproducibility s.d.:      | 0,57 mg/g feed |
| SDPA:                                                                         | 0,40 mg/g feed          | Rel. reproducibility s.d.: | 7,0%           |
| Rel. SDPA:                                                                    | 4,9%                    |                            |                |
| Range of tolerance: 7,31 - 9,10 mg/g feed ( $ Z'  \text{ score}   \leq 2,0$ ) |                         |                            |                |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 7,42     | -1,8     | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 8,68     | 1,1      | z: Other (Describe in   |                             |
| 23       | 7,80     | -0,9     | fa4: ISO/TS 17784-1 and |                             |
| 27       | 6,07     | -4,8     |                         |                             |
| 30       | 8,41     | 0,5      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 7,88     | 0,7      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 8,85     | 1,4      |                         |                             |
| 50       | 8,47     | 0,6      | fa3: AOCS Ce 1b-07      |                             |
| 63       | 8,22     | 0,0      | z: Other (Describe in   |                             |
| 65       | 7,93     | -0,6     | z: Other (Describe in   | Direct trans-esterification |
| 72       | 8,41     | 0,5      |                         |                             |
| 78       | 8,91     | 1,6      | fa1: AOCS Ce 1b-89      |                             |
| 81       | 8,34     | 0,3      | z: Other (Describe in   |                             |

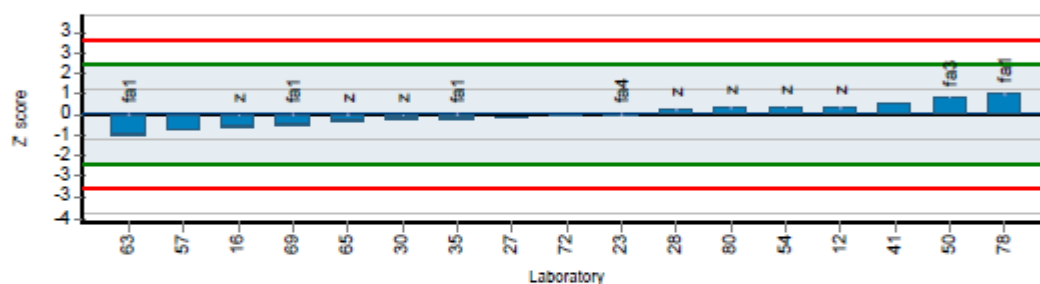
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.12 C20:5 n-3 (EPA)



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                            |                         |                            |             |
|------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                    | Fish feed - Fatty acids | No. of laboratories:       | 17          |
| Measurand:                                                 | C20:5 n-3 (EPA)         | Mean:                      | 3,29 area % |
| Assigned value:                                            | 3,29 area %             | Reproducibility s.d.:      | 0,14 area % |
| SDPA:                                                      | 0,26 area %             | Rel. reproducibility s.d.: | 4,1%        |
| Rel. SDPA:                                                 | 8,0%                    |                            |             |
| Range of tolerance: 2,76 - 3,83 area % ( Z' score  <= 2,0) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 3,38     | 0,3      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 3,15     | -0,5     | z: Other (Describe in   |                             |
| 23       | 3,30     | 0,0      | fa4: ISO/TS 17764-1 and |                             |
| 27       | 3,26     | -0,1     |                         |                             |
| 28       | 3,36     | 0,2      | z: Other (Describe in   | GC                          |
| 30       | 3,23     | -0,2     | z: Other (Describe in   | In house GD-FID method      |
| 35       | 3,24     | 0,2      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 3,43     | 0,5      |                         |                             |
| 50       | 3,47     | 0,7      | fa3: AOCS Ce 1i-07      |                             |
| 54       | 3,38     | 0,3      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 3,14     | -0,6     |                         |                             |
| 63       | 3,08     | -0,8     | fa1: AOCS Ce 1b-89      |                             |
| 65       | 3,23     | -0,3     | z: Other (Describe in   | Direct trans-esterification |
| 69       | 3,19     | -0,4     | fa1: AOCS Ce 1b-89      |                             |

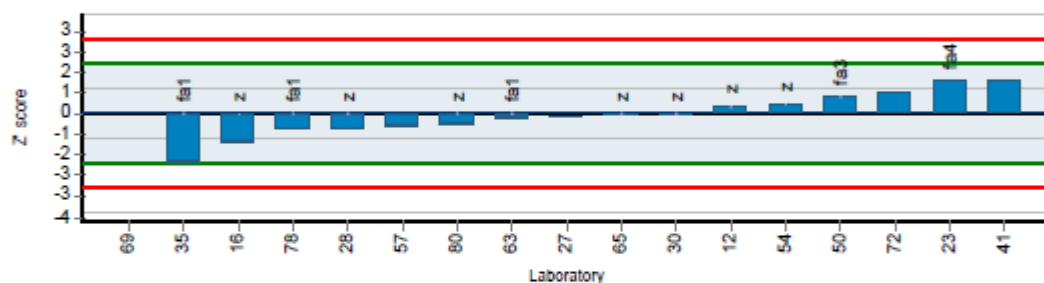
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.13 C22:0



#### Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Fatty acids | No. of laboratories:       | 16          |
| Measurand:                                                               | C22:0                   | Mean:                      | 1,36 area % |
| Assigned value:                                                          | 1,36 area %             | Reproducibility s.d.:      | 0,10 area % |
| SDPA:                                                                    | 0,11 area %             | Rel. reproducibility s.d.: | 7,4%        |
| Rel. SDPA:                                                               | 8,0%                    |                            |             |
| Range of tolerance: 1,13 - 1,58 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 1,40     | 0,3      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 1,22     | -1,2     | z: Other (Describe in   |                             |
| 23       | 1,50     | 1,3      | fa4: ISO/TS 17784-1 and |                             |
| 27       | 1,35     | -0,1     |                         |                             |
| 28       | 1,29     | -0,6     | z: Other (Describe in   | GC                          |
| 30       | 1,38     | 0,0      | z: Other (Describe in   | In house GD-FID method      |
| 65       | 1,15     | 1,0      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 1,50     | 1,3      |                         |                             |
| 50       | 1,44     | 0,7      | fa3: AOCS Ce 1i-07      |                             |
| 54       | 1,40     | 0,4      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 1,30     | -0,5     |                         |                             |
| 63       | 1,34     | -0,2     | fa1: AOCS Ce 1b-89      |                             |
| 65       | 1,38     | 0,0      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 0,14     |          | fa1: AOCS Ce 1b-89      | z'-score > 5                |

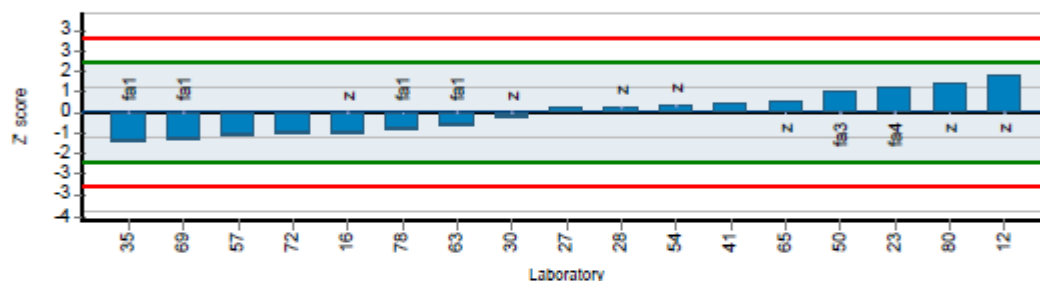
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.14 C22:5 n-3 (DPA)



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Fatty acids | No. of laboratories:       | 17          |
| Measurand:                                                               | C22:5 n-3 (DPA)         | Mean:                      | 0,45 area % |
| Assigned value:                                                          | 0,45 area %             | Reproducibility s.d.:      | 0,05 area % |
| SDPA:                                                                    | 0,05 area %             | Rel. reproducibility s.d.: | 10,2%       |
| Rel. SDPA:                                                               | 10,0%                   |                            |             |
| Range of tolerance: 0,36 - 0,55 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 0,52     | 1,5      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 0,42     | -0,8     | z: Other (Describe in   |                             |
| 23       | 0,50     | 1,0      | fa4: ISO/TS 17764-1 and |                             |
| 27       | 0,46     | 0,2      |                         |                             |
| 28       | 0,46     | 0,2      | z: Other (Describe in   | GC                          |
| 30       | 0,44     | -0,2     | z: Other (Describe in   | In house GD-FID method      |
| 35       | 0,30     | -1,2     | fa1: AOCS Ce 1b-89      |                             |
| 41       | 0,47     | 0,4      |                         |                             |
| 50       | 0,50     | 0,9      | fa3: AOCS Ce 1b-07      |                             |
| 54       | 0,47     | 0,3      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 0,41     | -0,9     |                         |                             |
| 63       | 0,43     | -0,5     | fa1: AOCS Ce 1b-89      |                             |
| 65       | 0,47     | 0,5      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 0,40     | -1,1     | fa1: AOCS Ce 1b-89      |                             |
| 72       | 0,41     | -0,8     |                         |                             |

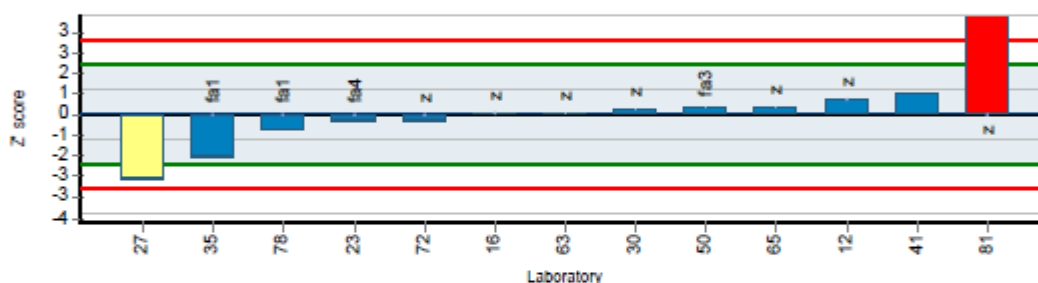
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.15 C22:5 n-3 (DPA) abs



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                               |                         |                            |                |
|---------------------------------------------------------------|-------------------------|----------------------------|----------------|
| Sample:                                                       | Fish feed - Fatty acids | No. of laboratories:       | 13             |
| Measurand:                                                    | C22:5 n-3 (DPA) abs     | Mean:                      | 1,13 mg/g feed |
| Assigned value:                                               | 1,13 mg/g feed          | Reproducibility s.d.:      | 0,09 mg/g feed |
| SDPA:                                                         | 0,10 mg/g feed          | Rel. reproducibility s.d.: | 8,2%           |
| Rel. SDPA:                                                    | 8,8%                    |                            |                |
| Range of tolerance: 0,92 - 1,34 mg/g feed ( Z' score  <= 2,0) |                         |                            |                |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 1,19     | 0,6      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 1,14     | 0,1      | z: Other (Describe in   |                             |
| 23       | 1,10     | -0,3     | fa4: ISO/TS 17784-1 and |                             |
| 27       | 0,86     | -2,6     |                         |                             |
| 30       | 1,15     | 0,2      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 0,05     | 1,7      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 1,23     | 0,9      |                         |                             |
| 50       | 1,17     | 0,3      | fa3: AOCS Ce 1i-07      |                             |
| 63       | 1,15     | 0,1      | z: Other (Describe in   |                             |
| 65       | 1,17     | 0,3      | z: Other (Describe in   | Direct trans-esterification |
| 72       | 1,10     | -0,3     | z: Other (Describe in   |                             |
| 78       | 1,08     | -0,6     | fa1: AOCS Ce 1b-89      |                             |
| 81       | 1,58     | 4,3      | z: Other (Describe in   |                             |

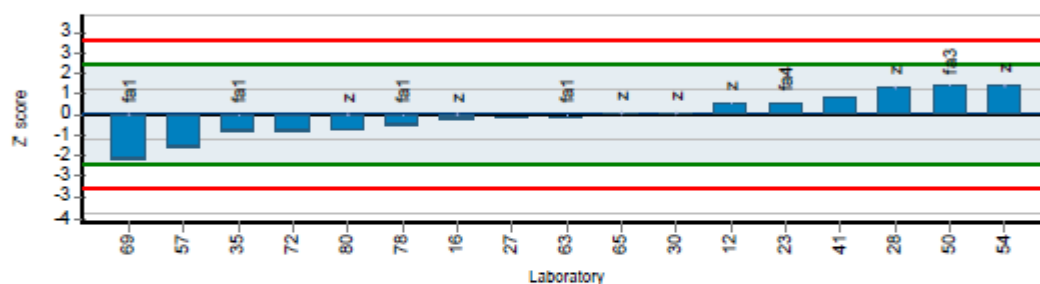
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.16 C22:5 n-3 (DPA) abs



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Fatty acids | No. of laboratories:       | 17          |
| Measurand:                                                               | C22:6 n-3 (DHA)         | Mean:                      | 5,08 area % |
| Assigned value:                                                          | 5,08 area %             | Reproducibility s.d.:      | 0,38 area % |
| SDPA:                                                                    | 0,40 area %             | Rel. reproducibility s.d.: | 7,5%        |
| Rel. SDPA:                                                               | 7,9%                    |                            |             |
| Range of tolerance: 4,25 - 5,91 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 5,27     | 0,5      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 5,02     | -0,2     | z: Other (Describe in   |                             |
| 23       | 5,30     | 0,5      | fa4: ISO/TS 17784-1 and |                             |
| 27       | 5,03     | -0,1     |                         |                             |
| 28       | 5,54     | 1,1      | z: Other (Describe in   | GC                          |
| 30       | 5,14     | 0,1      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 4,70     | 0,7      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 5,39     | 0,7      |                         |                             |
| 50       | 5,58     | 1,2      | fa3: AOCS Ce 1b-07      |                             |
| 54       | 5,58     | 1,2      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 4,56     | -1,3     |                         |                             |
| 63       | 5,06     | -0,1     | fa1: AOCS Ce 1b-89      |                             |
| 65       | 5,11     | 0,1      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 4,33     | -1,8     | fa1: AOCS Ce 1b-89      |                             |

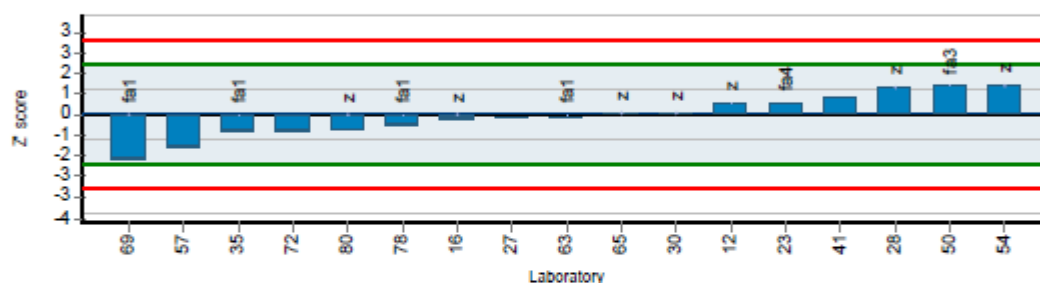
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.17 C22:6 n-3 (DHA)



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                          |                         |                            |             |
|--------------------------------------------------------------------------|-------------------------|----------------------------|-------------|
| Sample:                                                                  | Fish feed - Fatty acids | No. of laboratories:       | 17          |
| Measurand:                                                               | C22:6 n-3 (DHA)         | Mean:                      | 5,08 area % |
| Assigned value:                                                          | 5,08 area %             | Reproducibility s.d.:      | 0,38 area % |
| SDPA:                                                                    | 0,40 area %             | Rel. reproducibility s.d.: | 7,5%        |
| Rel. SDPA:                                                               | 7,9%                    |                            |             |
| Range of tolerance: 4,25 - 5,91 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 5,27     | 0,5      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 5,02     | -0,2     | z: Other (Describe in   |                             |
| 23       | 5,30     | 0,5      | fa4: ISO/TS 17764-1 and |                             |
| 27       | 5,03     | -0,1     |                         |                             |
| 28       | 5,54     | 1,1      | z: Other (Describe in   | GC                          |
| 30       | 5,14     | 0,1      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 4,70     | 0,7      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 5,39     | 0,7      |                         |                             |
| 50       | 5,58     | 1,2      | fa3: AOCS Ce 1b-07      |                             |
| 54       | 5,58     | 1,2      | z: Other (Describe in   | AOAC 991.39                 |
| 57       | 4,56     | -1,3     |                         |                             |
| 63       | 5,08     | -0,1     | fa1: AOCS Ce 1b-89      |                             |
| 65       | 5,11     | 0,1      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 4,33     | -1,8     | fa1: AOCS Ce 1b-89      |                             |

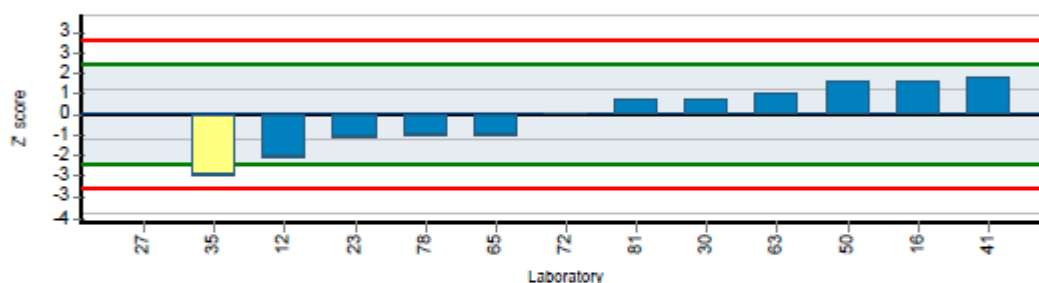
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.18 C22:6 n-3 (DHA) abs



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                               |                         |                            |                 |
|-------------------------------------------------------------------------------|-------------------------|----------------------------|-----------------|
| Sample:                                                                       | Fish feed - Fatty acids | No. of laboratories:       | 12              |
| Measurand:                                                                    | C22:6 n-3 (DHA) abs     | Mean:                      | 13,02 mg/g feed |
| Assigned value:                                                               | 13,02 mg/g feed         | Reproducibility s.d.:      | 0,83 mg/g feed  |
| SDPA:                                                                         | 0,52 mg/g feed          | Rel. reproducibility s.d.: | 6,4%            |
| Rel. SDPA:                                                                    | 4,0%                    |                            |                 |
| Range of tolerance: 11,82 - 14,21 mg/g feed ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |                 |



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| Lab code | Lab mean | Z' score | Analytical method | Comment                     |
|----------|----------|----------|-------------------|-----------------------------|
| 12       | 12,02    | -1,7     |                   | Internal method GC-FID      |
| 16       | 13,81    | 1,3      |                   |                             |
| 23       | 12,50    | -0,9     |                   |                             |
| 27       | 9,38     |          |                   | $z' \text{-score} >  5 $    |
| 30       | 13,38    | 0,6      |                   | In house GD-FID method      |
| 35       | 11,50    | -2,4     |                   |                             |
| 41       | 13,90    | 1,5      |                   |                             |
| 50       | 13,80    | 1,3      |                   | AOC'S Ce 11-07              |
| 63       | 13,50    | 0,8      |                   |                             |
| 65       | 12,56    | -0,8     |                   | Direct trans-esterification |
| 72       | 13,08    | 0,1      |                   |                             |
| 78       | 12,51    | -0,8     |                   |                             |
| 81       | 13,35    | 0,6      |                   |                             |

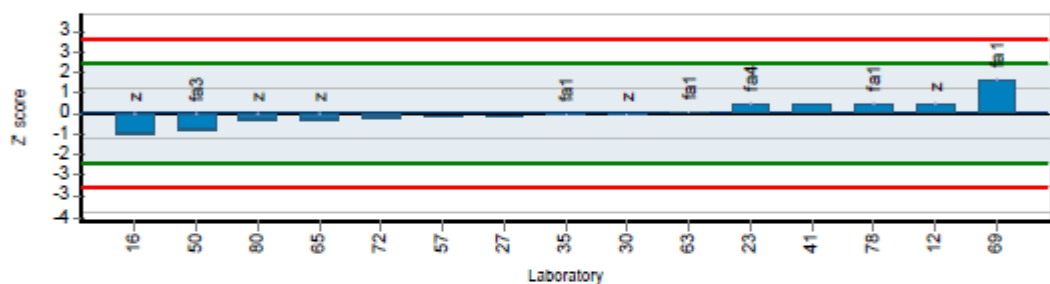
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.19 Monounsaturated



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                      |                         |                            |              |
|----------------------------------------------------------------------|-------------------------|----------------------------|--------------|
| Sample:                                                              | Fish feed - Fatty acids | No. of laboratories:       | 15           |
| Measurand:                                                           | Monounsaturated         | Mean:                      | 46,75 area % |
| Assigned value:                                                      | 46,75 area %            | Reproducibility s.d.:      | 1,58 area %  |
| SDPA:                                                                | 3,27 area %             | Rel. reproducibility s.d.: | 3,4%         |
| Rel. SDPA:                                                           | 7,0%                    |                            |              |
| Range of tolerance: 40,13 - 53,36 area % ( $ Z'$ score  $\leq 2,0$ ) |                         |                            |              |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 48,19    | 0,4      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 44,26    | -0,8     | z: Other (Describe in   |                             |
| 23       | 48,10    | 0,4      | fa4: ISO/TS 17784-1 and |                             |
| 27       | 46,45    | -0,1     |                         |                             |
| 30       | 46,69    | 0,0      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 46,00    | 0,0      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 48,13    | 0,4      |                         |                             |
| 50       | 44,43    | -0,7     | fa3: AOCS Ce 1i-07      |                             |
| 57       | 46,35    | -0,1     |                         |                             |
| 63       | 46,94    | 0,1      | fa1: AOCS Ce 1b-89      |                             |
| 65       | 45,86    | -0,3     | z: Other (Describe in   | Direct trans-esterification |
| 69       | 51,29    | 1,4      | fa1: AOCS Ce 1b-89      |                             |
| 72       | 46,00    | -0,2     |                         |                             |
| 78       | 48,14    | 0,4      | fa1: AOCS Ce 1b-89      |                             |
| 80       | 45,72    | -0,3     | z: Other (Describe in   | Método Interno              |

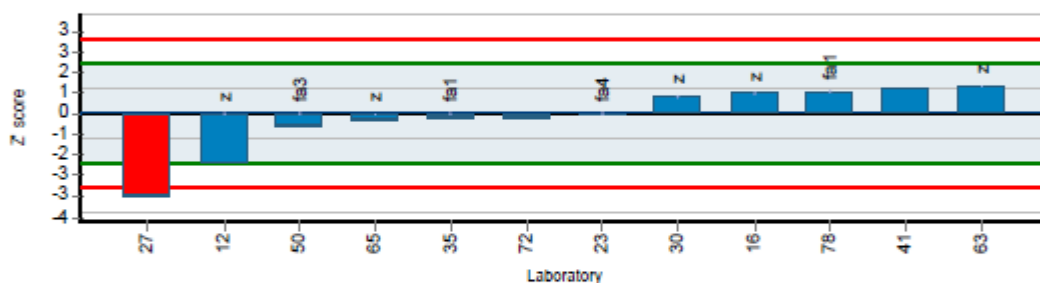
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.20 Monounsaturated abs



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                                |                         |                            |                  |
|--------------------------------------------------------------------------------|-------------------------|----------------------------|------------------|
| Sample:                                                                        | Fish feed - Fatty acids | No. of laboratories:       | 12               |
| Measurand:                                                                     | Monounsaturated abs     | Mean:                      | 115,26 mg/g feed |
| Assigned value:                                                                | 115,26 mg/g feed        | Reproducibility s.d.:      | 9,23 mg/g feed   |
| SDPA:                                                                          | 8,07 mg/g feed          | Rel. reproducibility s.d.: | 8,0%             |
| Rel. SDPA:                                                                     | 7,0%                    |                            |                  |
| Range of tolerance: 97,80 - 132,71 mg/g feed ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |                  |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 97,72    | -2,0     | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 121,92   | 0,8      | z: Other (Describe in   |                             |
| 23       | 115,10   | 0,0      | fa4: ISO/TS 17764-1 and |                             |
| 27       | 86,66    | -3,3     |                         |                             |
| 30       | 121,47   | 0,7      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 113,38   | 0,2      | fa1: AOCS Ce 1b-90      |                             |
| 41       | 124,07   | 1,0      |                         |                             |
| 50       | 110,54   | -0,5     | fa3: AOCS Ce 1b-07      |                             |
| 63       | 124,82   | 1,1      | z: Other (Describe in   |                             |
| 65       | 112,73   | -0,3     | z: Other (Describe in   | Direct trans-esterification |
| 72       | 113,43   | -0,2     |                         |                             |

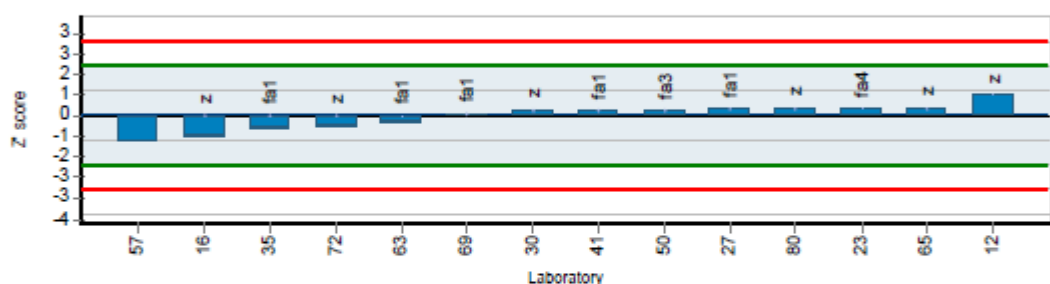
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.21 Omega 3



#### Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                              |                         |                            |              |
|--------------------------------------------------------------|-------------------------|----------------------------|--------------|
| Sample:                                                      | Fish feed - Fatty acids | No. of laboratories:       | 14           |
| Measurand:                                                   | Omega 3                 | Mean:                      | 15,84 area % |
| Assigned value:                                              | 15,84 area %            | Reproducibility s.d.:      | 0,60 area %  |
| SDPA:                                                        | 1,11 area %             | Rel. reproducibility s.d.: | 3,8%         |
| Rel. SDPA:                                                   | 7,0%                    |                            |              |
| Range of tolerance: 13,59 - 18,10 area % ( Z' score  <= 2,0) |                         |                            |              |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 16,74    | 0,8      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 14,98    | -0,8     | z: Other (Describe in   |                             |
| 23       | 16,20    | 0,3      | fa4: ISO/TS 17764-1 and |                             |
| 27       | 16,16    | 0,3      | fa1: AOCS Ce 1b-89      |                             |
| 30       | 16,02    | 0,2      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 15,32    | 0,5      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 16,05    | 0,2      | fa1: AOCS Ce 1b-89      |                             |
| 50       | 16,13    | 0,2      | fa3: AOCS Ce 1f-07      |                             |
| 57       | 14,68    | -1,0     |                         |                             |
| 63       | 15,50    | -0,3     | fa1: AOCS Ce 1b-89      |                             |
| 65       | 16,23    | 0,3      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 16,01    | 0,1      | fa1: AOCS Ce 1b-89      |                             |
| 72       | 15,38    | -0,4     | z: Other (Describe in   |                             |

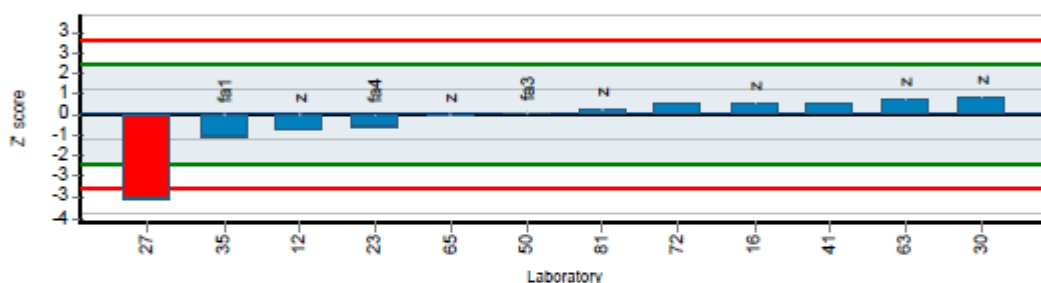
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.22 Omega 3 abs



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                               |                         |                            |                 |
|-------------------------------------------------------------------------------|-------------------------|----------------------------|-----------------|
| Sample:                                                                       | Fish feed - Fatty acids | No. of laboratories:       | 12              |
| Measurand:                                                                    | Omega 3 abs             | Mean:                      | 39,79 mg/g feed |
| Assigned value:                                                               | 39,79 mg/g feed         | Reproducibility s.d.:      | 2,04 mg/g feed  |
| SDPA:                                                                         | 2,79 mg/g feed          | Rel. reproducibility s.d.: | 5,1%            |
| Rel. SDPA:                                                                    | 7,0%                    |                            |                 |
| Range of tolerance: 34,03 - 45,55 mg/g feed ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |                 |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 37,98    | -0,6     | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 41,27    | 0,5      | z: Other (Describe in   |                             |
| 23       | 38,30    | -0,5     | fa4: ISO/TS 17784-1 and |                             |
| 27       | 30,14    | -3,4     |                         |                             |
| 30       | 41,69    | 0,7      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 37,24    | 0,0      | fa1: AOCS Ce 1b-90      |                             |
| 41       | 41,36    | 0,5      |                         |                             |
| 50       | 40,11    | 0,1      | fa3: AOCS Ce 11-07      |                             |
| 63       | 41,44    | 0,6      | z: Other (Describe in   |                             |
| 65       | 39,91    | 0,0      | z: Other (Describe in   | Direct trans-esterification |
| 72       | 41,20    | 0,5      |                         |                             |
| 81       | 40,25    | 0,2      | z: Other (Describe in   |                             |

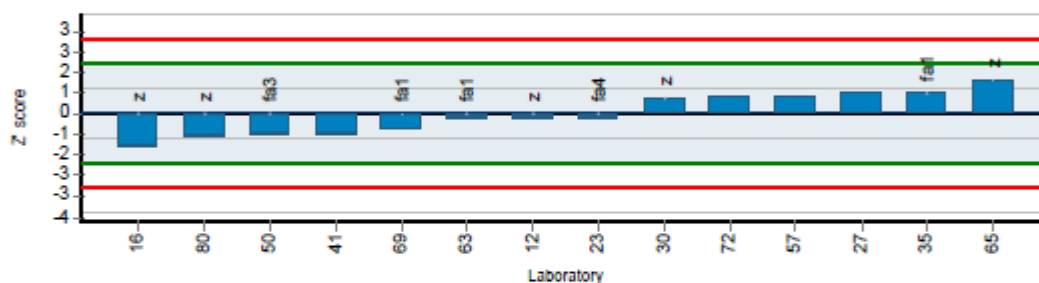
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.23 Omega 6



#### Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                            |                         |                            |              |
|----------------------------------------------------------------------------|-------------------------|----------------------------|--------------|
| Sample:                                                                    | Fish feed - Fatty acids | No. of laboratories:       | 14           |
| Measurand:                                                                 | Omega 6                 | Mean:                      | 16,20 area % |
| Assigned value:                                                            | 16,20 area %            | Reproducibility s.d.:      | 1,10 area %  |
| SDPA:                                                                      | 1,13 area %             | Rel. reproducibility s.d.: | 6,8%         |
| Rel. SDPA:                                                                 | 7,0%                    |                            |              |
| Range of tolerance: 13,81 - 18,58 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |              |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 15,99    | -0,2     | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 14,68    | -1,3     | z: Other (Describe in   |                             |
| 23       | 16,00    | -0,2     | fa4: ISO/TS 17764-1 and |                             |
| 27       | 17,11    | 0,8      |                         |                             |
| 30       | 16,90    | 0,8      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 17,13    | 0,8      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 15,29    | -0,8     |                         |                             |
| 50       | 15,19    | -0,8     | fa3: AOCS Ce 1f-07      |                             |
| 57       | 17,08    | 0,7      |                         |                             |
| 63       | 15,99    | -0,2     | fa1: AOCS Ce 1b-89      |                             |
| 65       | 17,82    | 1,4      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 15,54    | -0,6     | fa1: AOCS Ce 1b-89      |                             |
| 72       | 16,99    | 0,7      |                         |                             |

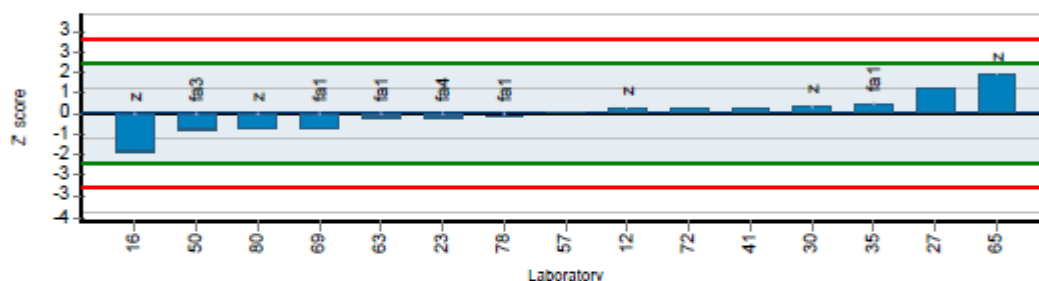
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.24 Polyunsaturated



#### Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                            |                         |                            |              |
|----------------------------------------------------------------------------|-------------------------|----------------------------|--------------|
| Sample:                                                                    | Fish feed - Fatty acids | No. of laboratories:       | 15           |
| Measurand:                                                                 | Polyunsaturated         | Mean:                      | 32,45 area % |
| Assigned value:                                                            | 32,45 area %            | Reproducibility s.d.:      | 1,05 area %  |
| SDPA:                                                                      | 1,62 area %             | Rel. reproducibility s.d.: | 3,2%         |
| Rel. SDPA:                                                                 | 5,0%                    |                            |              |
| Range of tolerance: 29,14 - 35,77 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |              |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 32,73    | 0,2      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 29,84    | -1,6     | z: Other (Describe in   |                             |
| 23       | 32,20    | -0,2     | fa4: ISO/TS 17764-1 and |                             |
| 27       | 34,04    | 1,0      |                         |                             |
| 30       | 32,92    | 0,3      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 33,99    | 0,4      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 32,80    | 0,2      |                         |                             |
| 50       | 31,31    | -0,7     | fa3: AOCS Ce 1f-07      |                             |
| 57       | 32,69    | 0,1      |                         |                             |
| 63       | 32,09    | -0,2     | fa1: AOCS Ce 1b-89      |                             |
| 65       | 35,12    | 1,6      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 31,50    | -0,6     | fa1: AOCS Ce 1b-89      |                             |
| 72       | 32,79    | 0,2      |                         |                             |
| 78       | 32,37    | -0,1     | fa1: AOCS Ce 1b-89      |                             |
| 80       | 31,39    | -0,6     | z: Other (Describe in   | Método Interno              |

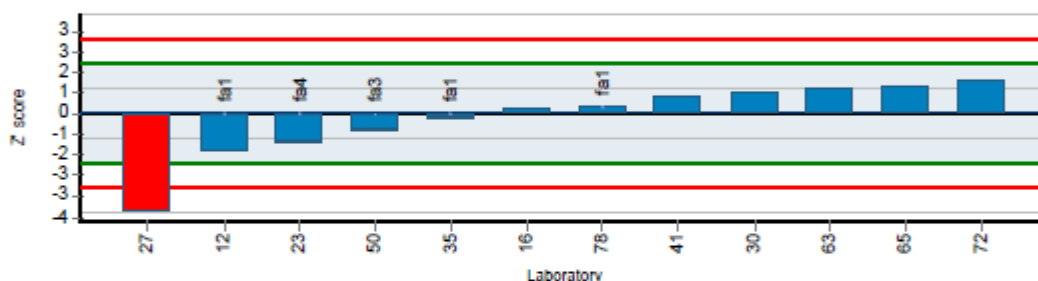
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.25 Polyunsaturated abs



#### Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                     |                                                           |                            |                 |
|---------------------|-----------------------------------------------------------|----------------------------|-----------------|
| Sample:             | Fish feed - Fatty acids                                   | No. of laboratories:       | 12              |
| Measurand:          | Polyunsaturated abs                                       | Mean:                      | 81,36 mg/g feed |
| Assigned value:     | 81,36 mg/g feed                                           | Reproducibility s.d.:      | 5,63 mg/g feed  |
| SDPA:               | 4,07 mg/g feed                                            | Rel. reproducibility s.d.: | 6,9%            |
| Rel. SDPA:          | 5,0%                                                      |                            |                 |
| Range of tolerance: | 72,27 - 90,45 mg/g feed ( $ Z' \text{ score}  \leq 2,0$ ) |                            |                 |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 74,55    | -1,5     | fa1: AOCS Ce 1b-89      | Internal method GC-FID      |
| 16       | 82,21    | 0,2      |                         |                             |
| 23       | 76,10    | -1,2     | fa4: ISO/TS 17764-1 and |                             |
| 27       | 63,50    | -3,9     |                         |                             |
| 30       | 85,64    | 0,9      |                         | In house GD-FID method      |
| 35       | 80,32    | 0,2      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 84,55    | 0,7      |                         |                             |
| 50       | 77,98    | -0,7     | fa3: AOCS Ce 1f-07      |                             |
| 63       | 85,69    | 1,0      |                         |                             |
| 65       | 86,34    | 1,1      |                         | Direct trans-esterification |
| 72       | 87,47    | 1,3      |                         |                             |
| 78       | 82,53    | 0,3      | fa1: AOCS Ce 1b-89      |                             |

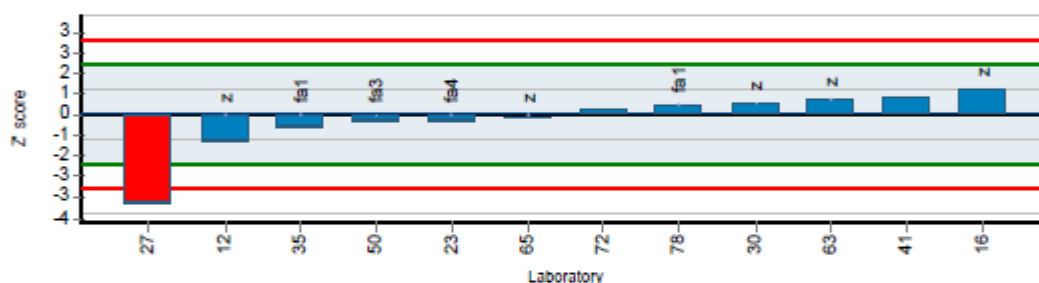
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.26 Saturated fatty acids abs



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                               |                           |                            |                 |
|-------------------------------------------------------------------------------|---------------------------|----------------------------|-----------------|
| Sample:                                                                       | Fish feed - Fatty acids   | No. of laboratories:       | 12              |
| Measurand:                                                                    | Saturated fatty acids abs | Mean:                      | 46,74 mg/g feed |
| Assigned value:                                                               | 46,74 mg/g feed           | Reproducibility s.d.:      | 2,73 mg/g feed  |
| SDPA:                                                                         | 3,27 mg/g feed            | Rel. reproducibility s.d.: | 5,8%            |
| Rel. SDPA:                                                                    | 7,0%                      |                            |                 |
| Range of tolerance: 39,91 - 53,56 mg/g feed ( $ Z' \text{ score}  \leq 2,0$ ) |                           |                            |                 |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 43,11    | -1,1     | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 50,21    | 1,0      | z: Other (Describe in   |                             |
| 23       | 45,70    | -0,3     | fa4: ISO/TS 17764-1 and |                             |
| 27       | 34,49    | -3,6     |                         |                             |
| 30       | 48,52    | 0,5      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 44,99    | -0,3     | fa1: AOCS Ce 1b-89      |                             |
| 41       | 49,17    | 0,7      |                         |                             |
| 50       | 45,61    | -0,3     | fa3: AOCS Ce 1b-07      |                             |
| 63       | 48,69    | 0,6      | z: Other (Describe in   |                             |
| 65       | 46,52    | -0,1     | z: Other (Describe in   | Direct trans-esterification |
| 72       | 47,44    | 0,2      |                         |                             |
| 78       | 48,23    | 0,4      | fa1: AOCS Ce 1b-89      |                             |

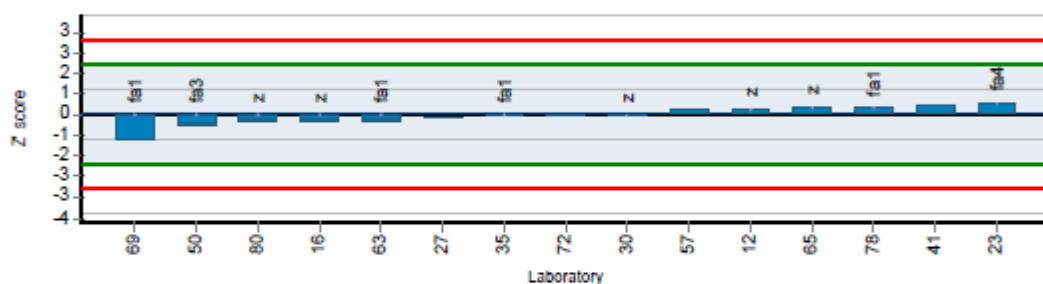
## 7.-DETERMINACIÓN DE PERFIL DE ÁCIDOS GRASOS EN ALIMENTO PARA PECES

### 7.27 Saturated fatty acids



Aquaculture ring test 2026-Final Report: Fish Feed Fatty Acids

|                                                                            |                         |                            |              |
|----------------------------------------------------------------------------|-------------------------|----------------------------|--------------|
| Sample:                                                                    | Fish feed - Fatty acids | No. of laboratories:       | 15           |
| Measurand:                                                                 | Saturated fatty acids   | Mean:                      | 18,58 area % |
| Assigned value:                                                            | 18,58 area %            | Reproducibility s.d.:      | 0,46 area %  |
| SDPA:                                                                      | 1,30 area %             | Rel. reproducibility s.d.: | 2,5%         |
| Rel. SDPA:                                                                 | 7,0%                    |                            |              |
| Range of tolerance: 15,97 - 21,20 area % ( $ Z' \text{ score}  \leq 2,0$ ) |                         |                            |              |



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| Lab code | Lab mean | Z' score | Analytical method       | Comment                     |
|----------|----------|----------|-------------------------|-----------------------------|
| 12       | 18,84    | 0,2      | z: Other (Describe in   | Internal method GC-FID      |
| 16       | 18,22    | -0,3     | z: Other (Describe in   |                             |
| 23       | 19,30    | 0,5      | fa4: ISO/TS 17784-1 and |                             |
| 27       | 18,49    | -0,1     |                         |                             |
| 30       | 18,65    | 0,0      | z: Other (Describe in   | In house GD-FID method      |
| 35       | 18,53    | 0,0      | fa1: AOCS Ce 1b-89      |                             |
| 41       | 19,07    | 0,4      |                         |                             |
| 50       | 18,10    | -0,4     | fa3: AOCS Ce 11-07      |                             |
| 57       | 18,81    | 0,2      |                         |                             |
| 63       | 18,23    | -0,3     | fa1: AOCS Ce 1b-89      |                             |
| 65       | 18,92    | 0,3      | z: Other (Describe in   | Direct trans-esterification |
| 69       | 17,27    | -1,0     | fa1: AOCS Ce 1b-89      |                             |
| 72       | 18,58    | 0,0      |                         |                             |
| 78       | 18,96    | 0,3      | fa1: AOCS Ce 1b-89      |                             |

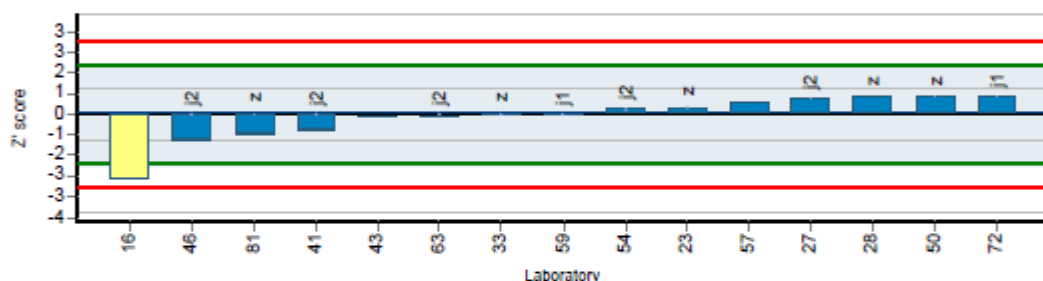
## 8.-DETERMINACIÓN DE ASTAXANTINA EN ALIMENTO PARA PECES

### 8.1 Pigment Astaxanthin



Aquaculture ring test 2026-Final Report:Fish Feed Pigment

|                     |                                         |                            |             |
|---------------------|-----------------------------------------|----------------------------|-------------|
| Sample:             | Fish feed - Pigment and vitamins        | No. of laboratories:       | 15          |
| Measurand:          | Pigment astaxanthin                     | Mean:                      | 74,28 mg/kg |
| Assigned value:     | 74,28 mg/kg                             | Reproducibility s.d.:      | 5,40 mg/kg  |
| SDPA:               | 7,43 mg/kg                              | Rel. reproducibility s.d.: | 7,3%        |
| Rel. SDPA:          | 10,0%                                   |                            |             |
| Range of tolerance: | 59,03 - 89,53 mg/kg ( Z' score  <= 2,0) |                            |             |



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| Lab code | Lab mean | Z' score | Analytical method          | Comment                          |
|----------|----------|----------|----------------------------|----------------------------------|
| 16       | 54,35    | -2,6     |                            |                                  |
| 23       | 76,80    | 0,3      | z: Other (Describe in      | HPLC-UV                          |
| 27       | 78,50    | 0,6      | j2: DSM J.Schiele, C.Frey, |                                  |
| 28       | 79,30    | 0,7      | z: Other (Describe in      | HPLC                             |
| 33       | 74,24    | 0,0      | z: Other (Describe in      | PTCPS - HPLC-UV/DAD              |
| 41       | 69,69    | -0,6     | j2: DSM J.Schiele, C.Frey, |                                  |
| 43       | 73,04    | -0,1     |                            |                                  |
| 46       | 66,30    | -1,0     | j2: DSM J.Schiele, C.Frey, | Acetone extraction with UPLC DAD |
| 50       | 79,55    | 0,7      | z: Other (Describe in      | DSM A. Schattner, V. Riegert     |
| 54       | 76,04    | 0,2      | j2: DSM J.Schiele, C.Frey, |                                  |
| 57       | 77,82    | 0,5      |                            |                                  |
| 59       | 74,50    | 0,0      | j1: F. Hoffmann-La Roche   |                                  |
| 63       | 73,81    | -0,1     | j2: DSM J.Schiele, C.Frey, |                                  |
| 72       | 79,65    | 0,7      | j1: F. Hoffmann-La Roche   |                                  |

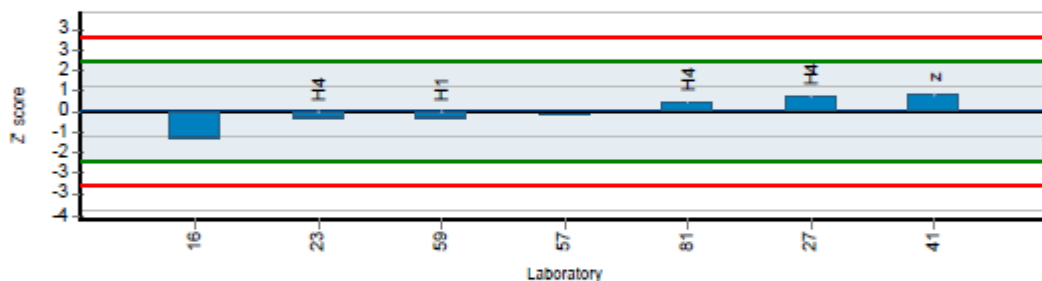
## 9.-DETERMINACIÓN DE VITAMINAS EN ALIMENTO PARA PECES

### 9.1 Vitamin D3



Aquaculture ring test 2026-Final Report: Fish Feed Vitamins

|                                                           |                                  |                            |            |
|-----------------------------------------------------------|----------------------------------|----------------------------|------------|
| Sample:                                                   | Fish feed - Pigment and vitamins | No. of laboratories:       | 7          |
| Measurand:                                                | Vitamin D3                       | Mean:                      | 14,64 IU/g |
| Assigned value:                                           | 14,64 IU/g                       | Reproducibility s.d.:      | 2,24 IU/g  |
| SDPA:                                                     | 2,93 IU/g                        | Rel. reproducibility s.d.: | 15,3%      |
| Rel. SDPA:                                                | 20,0%                            |                            |            |
| Range of tolerance: 8,41 - 20,86 IU/g ( Z' score  <= 2,0) |                                  |                            |            |



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| Lab code | Lab mean | Z' score | Analytical method     | Comment                               |
|----------|----------|----------|-----------------------|---------------------------------------|
| 16       | 11,20    | -1,1     |                       |                                       |
| 23       | 13,60    | -0,3     | H4: LC-MS             |                                       |
| 27       | 16,84    | 0,8      | H4: LC-MS             |                                       |
| 41       | 16,76    | 0,7      | z: Other (Describe in | Limpieza HPLC Silica UV Determinación |
| 57       | 14,34    | -0,1     |                       |                                       |
| 59       | 13,86    | -0,3     | H1: HPLC-C18-UV       |                                       |
| 81       | 16,00    | 0,4      | H4: LC-MS             |                                       |

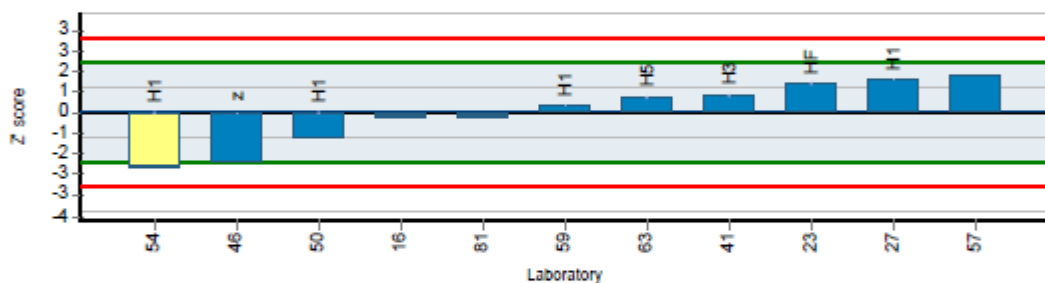
## 9.-DETERMINACIÓN DE VITAMINAS EN ALIMENTO PARA PECES

### 9.1 Vitamin E ( as DL-alpha tocoferolacetate)



Aquaculture ring test 2026-Final Report: Fish Feed Vitamins

|                     |                                            |                            |              |
|---------------------|--------------------------------------------|----------------------------|--------------|
| Sample:             | Fish feed - Pigment and vitamins           | No. of laboratories:       | 11           |
| Measurand:          | Vitamin E (as DL-alpha-tocopherol acetate) | Mean:                      | 407,31 mg/kg |
| Assigned value:     | 407,31 mg/kg                               | Reproducibility s.d.:      | 106,24 mg/kg |
| SDPA:               | 61,10 mg/kg                                | Rel. reproducibility s.d.: | 26,1%        |
| Rel. SDPA:          | 15,0%                                      |                            |              |
| Range of tolerance: | 261,36 - 553,26 mg/kg ( Z' score  <= 2,0)  |                            |              |



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| Lab code | Lab mean | Z' score | Analytical method            | Comment                           |
|----------|----------|----------|------------------------------|-----------------------------------|
| 16       | 390,00   | -0,2     |                              |                                   |
| 23       | 495,00   | 1,2      | H1: HPLC-C18-Fluorescence    |                                   |
| 27       | 502,55   | 1,3      | H1: HPLC-C18-UV              |                                   |
| 41       | 456,00   | 0,7      | H3: HPLC-Silica-UV           |                                   |
| 46       | 258,50   | -2,0     | z: Other (Describe in        | methanol extraction with UPLC DAD |
| 50       | 334,00   | -1,0     | H1: HPLC-C18-UV              |                                   |
| 54       | 247,73   | -2,2     | H1: HPLC-C18-UV              |                                   |
| 57       | 517,79   | 1,5      |                              |                                   |
| 59       | 429,10   | 0,3      | H1: HPLC-C18-UV              |                                   |
| 63       | 454,01   | 0,6      | H5: HPLC-Silica-Fluorescence |                                   |