

# What Evonik's Data Tells Us?

Tokyo, Japan  
November, 2025

 **SSOY**





# SSOY



**Bean  
Quality**



**Regional  
Differences**



**Soybean Meal  
Quality**



**Supporting The  
Animal Protein  
Industry**







| RUBROS                                                                       | BASES % | TOLERANCIA DE RECIBO % | REBAJAS                                                                                                                                                                                                                                                                                                                          | MERMAS                                                                                                                                            |
|------------------------------------------------------------------------------|---------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Materias extrañas                                                            | 1,0     | 3,0                    | Para valores superiores al 1,0% y hasta el 3,0% a razón del 1,0% por cada por ciento o fracción proporcional. Para valores superiores al 3,0% a razón del 1,5% por cada por ciento o fracción proporcional.                                                                                                                      | ----                                                                                                                                              |
| Incluido Tierra                                                              | 0,5     | 0,5                    | Para valores superiores al 0,5% a razón del 1,5% por cada por ciento o fracción proporcional.                                                                                                                                                                                                                                    |                                                                                                                                                   |
| Granos negros                                                                | ----    | 1,0                    | ----                                                                                                                                                                                                                                                                                                                             | ----                                                                                                                                              |
| Granos quebrados y/o partidos                                                | 20,0    | 30,0                   | Para valores superiores al 20,0% y hasta el 25,0% a razón del 0,25% por cada por ciento o fracción proporcional. Para valores superiores al 25,0% y hasta el 30,0% a razón del 0,5% por cada por ciento o fracción proporcional. Para valores superiores al 30,0% a razón del 0,75% por cada por ciento o fracción proporcional. |                                                                                                                                                   |
| Granos dañados (brotados, fermentados, ardidos, dañados por calor, podridos) | 5,0     | 5,0                    | Para valores superiores al 5,0% a razón del 1,0% por cada por ciento o fracción proporcional.                                                                                                                                                                                                                                    |                                                                                                                                                   |
| Incluido Granos quemados o "avería"                                          | ----    | 1,0                    | Para valores superiores al 1,0% a razón del 1,0% por cada por ciento o fracción proporcional.                                                                                                                                                                                                                                    | ----                                                                                                                                              |
| Granos verdes                                                                | 5,0     | 10,0                   | Para valores superiores al 5,0% se rebajará a razón del 0,2% por cada por ciento o fracción proporcional.                                                                                                                                                                                                                        |                                                                                                                                                   |
| Humedad                                                                      | ----    | 13,5                   | ----                                                                                                                                                                                                                                                                                                                             | Para la mercadería recibida que exceda la tolerancia de recibo, se descontarán las mermas correspondientes, de acuerdo a las tablas establecidas. |
| Chamico                                                                      | ----    | 5 sem. / kg            | ----                                                                                                                                                                                                                                                                                                                             | Para mercadería recibida que exceda la tolerancia de recibo, se practicarán las mermas correspondientes.                                          |

Libre de insectos y/o arácnidos vivos

ARBITRAJE: Para los rubros condición "revocado en tierra", "olores comercialmente objetables" y "granos amohosados", se establece un arbitraje con un descuento sobre el precio de CERO COMA CINCO POR CIENTO (0,5%) a DOS POR CIENTO (2,0%) según intensidad.

SERVICIO NACIONAL DE SANIDAD Y CALIDAD AGROALIMENTARIA.





| RUBROS                                                                       | BASES % | TOLERANCIA DE RECIBO % |                                                                                                                                         |
|------------------------------------------------------------------------------|---------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Materias extrañas                                                            | 1,0     | 3,0                    | Para valores superiores a cada por ciento o fracción al 3,0% a razón del 1,5%                                                           |
| Incluido Tierra                                                              | 0,5     | 0,5                    | Para valores superiores a cada por ciento o fracción al 0,5%                                                                            |
| Granos negros                                                                | ----    | 1,0                    |                                                                                                                                         |
| Granos quebrados y/o partidos                                                | 20,0    | 30,0                   | Para valores superiores a cada por ciento o fracción al 25,0% y hasta el 30,0% fracción proporcional al 0,75% por cada punto porcentual |
| Granos dañados (brotados, fermentados, ardidos, dañados por calor, podridos) | 5,0     | 5,0                    | Para valores superiores a cada por ciento o fracción al 5,0%                                                                            |
| Incluido Granos quemados o "avería"                                          | ----    | 1,0                    | Para valores superiores a cada por ciento o fracción al 1,0%                                                                            |
| Granos verdes                                                                | 5,0     | 10,0                   | Para valores superiores a cada por ciento o fracción al 5,0%                                                                            |
| Humedad                                                                      | ----    | 13,5                   |                                                                                                                                         |
| Chamico                                                                      | ----    | 5 sem. / kg            |                                                                                                                                         |

Libre de insectos y/o arácnidos vivos

ARBITRAJE: Para los rubros condición "revocado en tierra", "olores comercialmente objeto de arbitraje con un descuento sobre el precio de CERO COMA CINCO POR CIENTO (0,5%) a

3. **QUALITY / CONDITION:** To be final at time and place of shipment per certificate(s) covering and limited to the items below, based on a general representative composite sample taken according to method laid down in FOSFA Standard Contracts method list and issued by a member superintendent of FOSFA. Cost and choice are on Seller's account.

3.1. Laboratory analysis by a FOSFA Analyst Member:

- Oil content .....

Non-reciprocal allowance of 1% discount for each 1% deficiency, fractions in proportion
- Moisture .....
- Method:
- AOCS Ac 3 – 44
- AOCS Ac 2 - 41

3.2. Grading by a Superintendent or Analyst Member of FOSFA registered at Brazilian Ministry of Agriculture:

- Foreign matter .....

Non-reciprocal allowance of 1% discount for each 1% deficiency, fractions in proportion
- Damaged beans .....

Non-reciprocal allowance of 2% discount for each 1% deficiency, fractions in proportion
- Of which:

Heat Damaged and Burned .....

of which

Burned .....

Mouldy .....
- Broken beans

Greenish beans

Poisonous seeds/husks

within tolerances of:

1 particle of treated vegetal seeds with unknown level of toxicity for each 1 kg sample at each lot of 5,000 metric tons loaded or part thereof.

1 particle of toxic natural vegetal seeds for each 1 kg sample at each lot of 5,000 metric tons loaded or part thereof.
- Castor Seed and/or Castor Seed Husks .....

for general





| RUBROS                                                                       | BASES % | TOLERANCIA DE RECIBO % |                                                                                                                           |
|------------------------------------------------------------------------------|---------|------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Materias extrañas                                                            | 1,0     | 3,0                    | Para valores superiores a cada por ciento o fracción 3,0% a razón del 1,5%                                                |
| Incluido Tierra                                                              | 0,5     | 0,5                    | Para valores superiores a cada por ciento                                                                                 |
| Granos negros                                                                | ----    | 1,0                    |                                                                                                                           |
| Granos quebrados y/o partidos                                                | 20,0    | 30,0                   | Para valores superiores a cada por ciento o fracción al 25,0% y hasta el 30,0% fracción proporcional 0,75% por cada punto |
| Granos dañados (brotados, fermentados, ardidos, dañados por calor, podridos) | 5,0     | 5,0                    | Para valores superiores a cada por ciento                                                                                 |
| Incluido Granos quemados o "avería"                                          | ----    | 1,0                    | Para valores superiores a cada por ciento                                                                                 |
| Granos verdes                                                                | 5,0     | 10,0                   | Para valores superiores a cada por ciento                                                                                 |
| Humedad                                                                      | ----    | 13,5                   |                                                                                                                           |
| Chamico                                                                      | ----    | 5 sem. / kg            |                                                                                                                           |

**Libre de insectos y/o arácnidos vivos**  
 ARBITRAJE: Para los rubros condición "revolcado en tierra", "olores comercialmente objeto de arbitraje con un descuento sobre el precio de CERO COMA CINCO POR CIENTO (0,5%) a

3. **QUALITY / CONDITION:** To be final at time and place of shipment per certificate(s) covering below, based on a general representative composite sample taken according to method Contracts method list and issued by a member superintendent of FOSFA. Cost and choice

3.1. Laboratory analysis by a FOSFA Analyst Member:

- Oil content ..... : Basis .....  
*Non-reciprocal allowance of 1% discount for each 1% deficiency, fractions in proportion*
- Moisture ..... : Maximum .....

3.2. Grading by a Superintendent or Analyst Member of FOSFA registered at Brazilian M

- Foreign matter ..... : Basis .....  
Maximum.....  
*Non-reciprocal allowance of 1% discount for each 1% deficiency, fractions in proportion*
  - Damaged beans..... : Basis .....  
Maximum .....
- Non-reciprocal allowance of 2% discount for each 1% deficiency, fractions in proportion*  
Of which:

- Heat Damaged and Burned ..... : Maximum .....  
of which
  - Burned ..... : Maximum .....
  - Mouldy ..... : Maximum .....
- Broken beans ..... : Maximum .....
- Greenish beans ..... : Maximum .....
- Poisonous seeds/husks ..... : Substantially free within tolerances of:
  - 1 particle of treated vegetal seeds with unknown level of toxicity for each 1 metric tons loaded or part thereof.
  - 1 particle of toxic natural vegetal seeds for each 1 kg sample at each lot or part thereof.
- Castor Seed and/or Castor Seed Husks ..... : Maximum .....

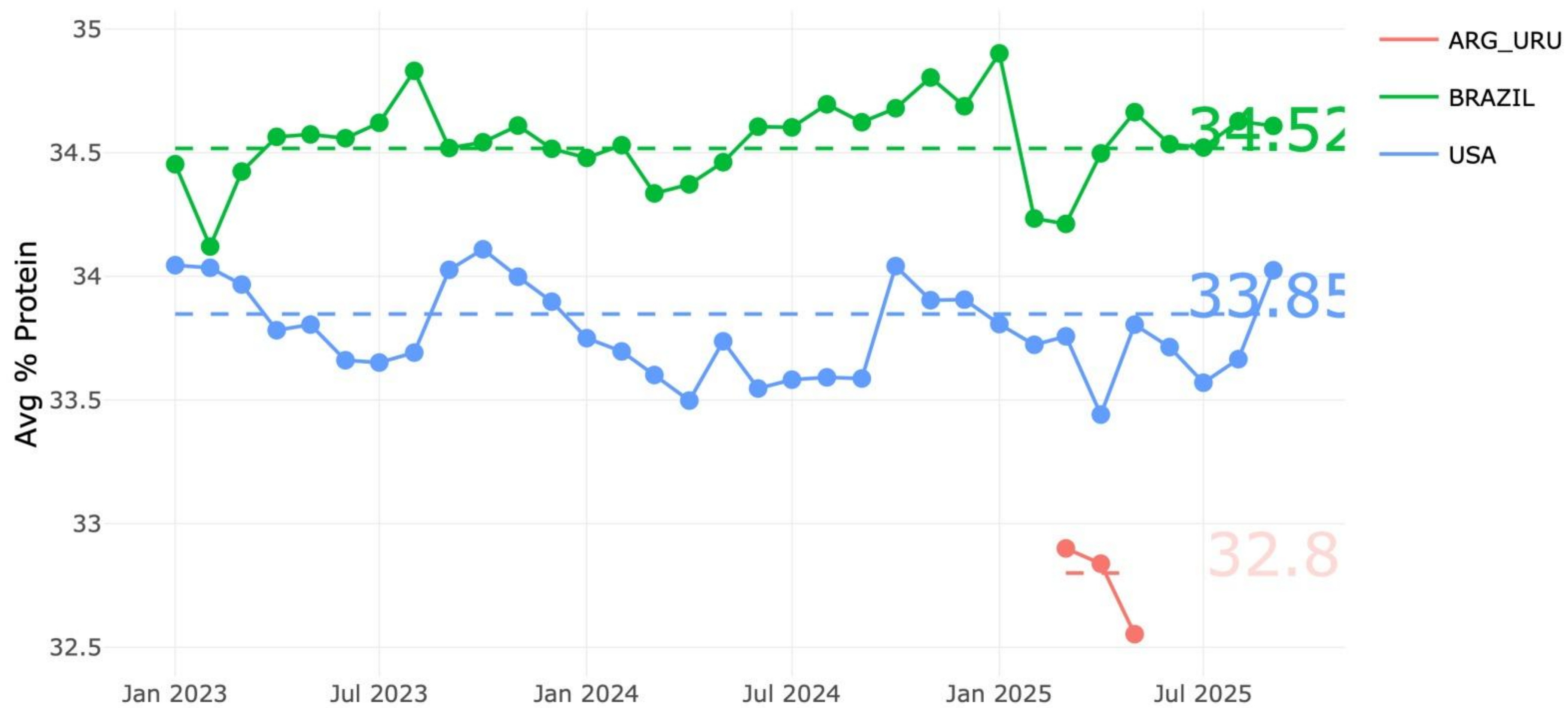
TABLE 10.1 – GRADES AND GRADE REQUIREMENTS FOR SOYBEANS

| Grade      | Maximum Limits of -            |                 |                            |                  |
|------------|--------------------------------|-----------------|----------------------------|------------------|
|            | Damaged Kernels                |                 | Foreign Material (percent) | Splits (percent) |
|            | Heat (part of total) (percent) | Total (percent) |                            |                  |
| U.S. No. 1 | 0.2                            | 2.0             | 1.0                        | 10.0             |
| U.S. No. 2 | 0.5                            | 3.0             | 2.0                        | 20.0             |
| U.S. No. 3 | 1.0                            | 5.0             | 3.0                        | 30.0             |
| U.S. No. 4 | 3.0                            | 8.0             | 5.0                        | 40.0             |

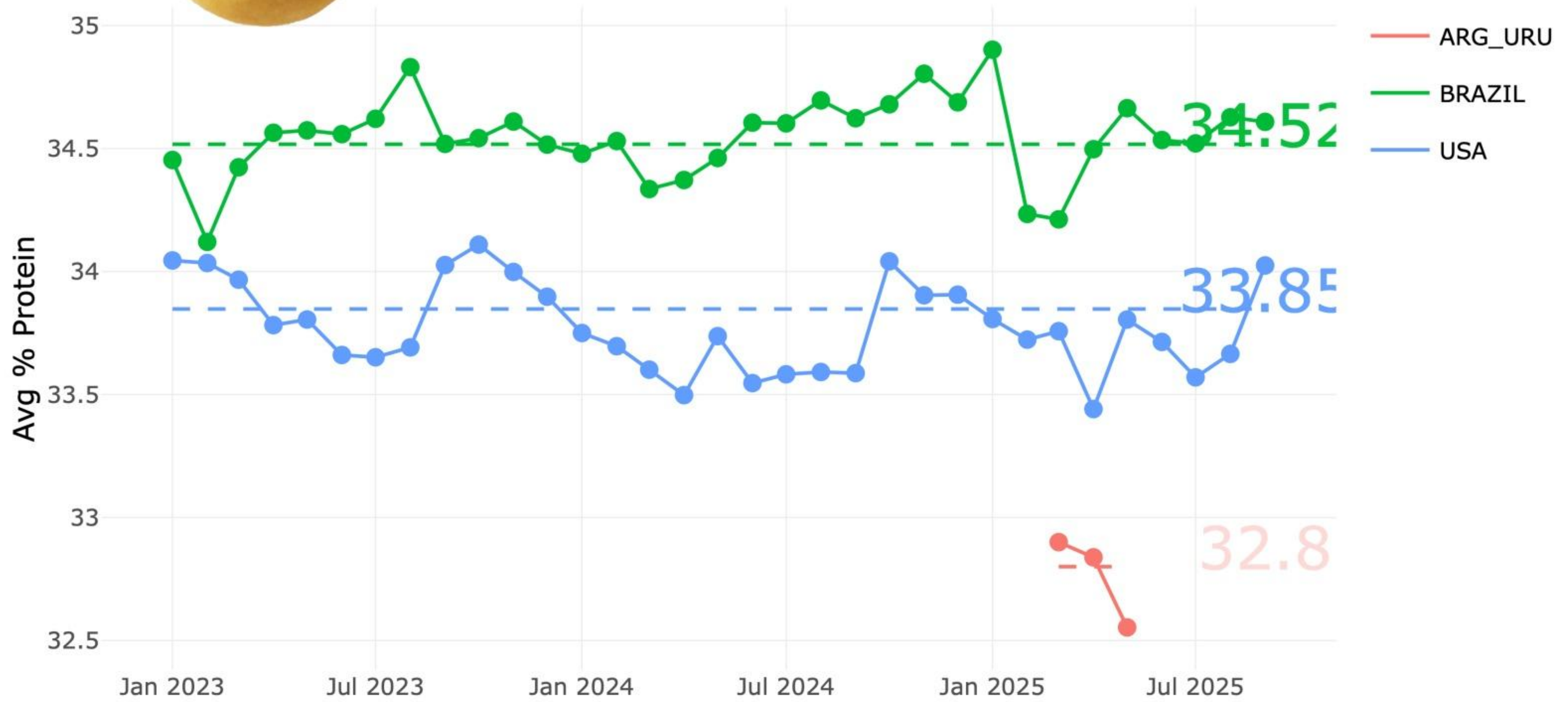
U.S. Sample Grade is soybeans that:

- Do not meet the requirements for grades U.S. No.1, 2, 3, or 4; or
- Contains 4 or more stones which have an aggregate weight in excess of 0.1 percent of the sample weight, 1 or more pieces of glass, 3 or more crotalaria seeds (*Crotalaria* spp.), 2 or more castor beans (*Ricinus communis* L.), 4 or more particles of an unknown foreign substance(s) or a commonly recognized harmful or toxic substance(s), 10 or more rodent pellets, bird droppings, or an equivalent quantity of other animal filth in 1,000 grams of soybeans, or
- Contain 11 or more animal filth, castor beans, crotalaria seeds, glass, stones, or unknown foreign substance(s) in any combination, or
- Have a musty, sour, or commercially objectionable foreign odor (except garlic odor); or
- Are heating or otherwise of distinctly low quality.









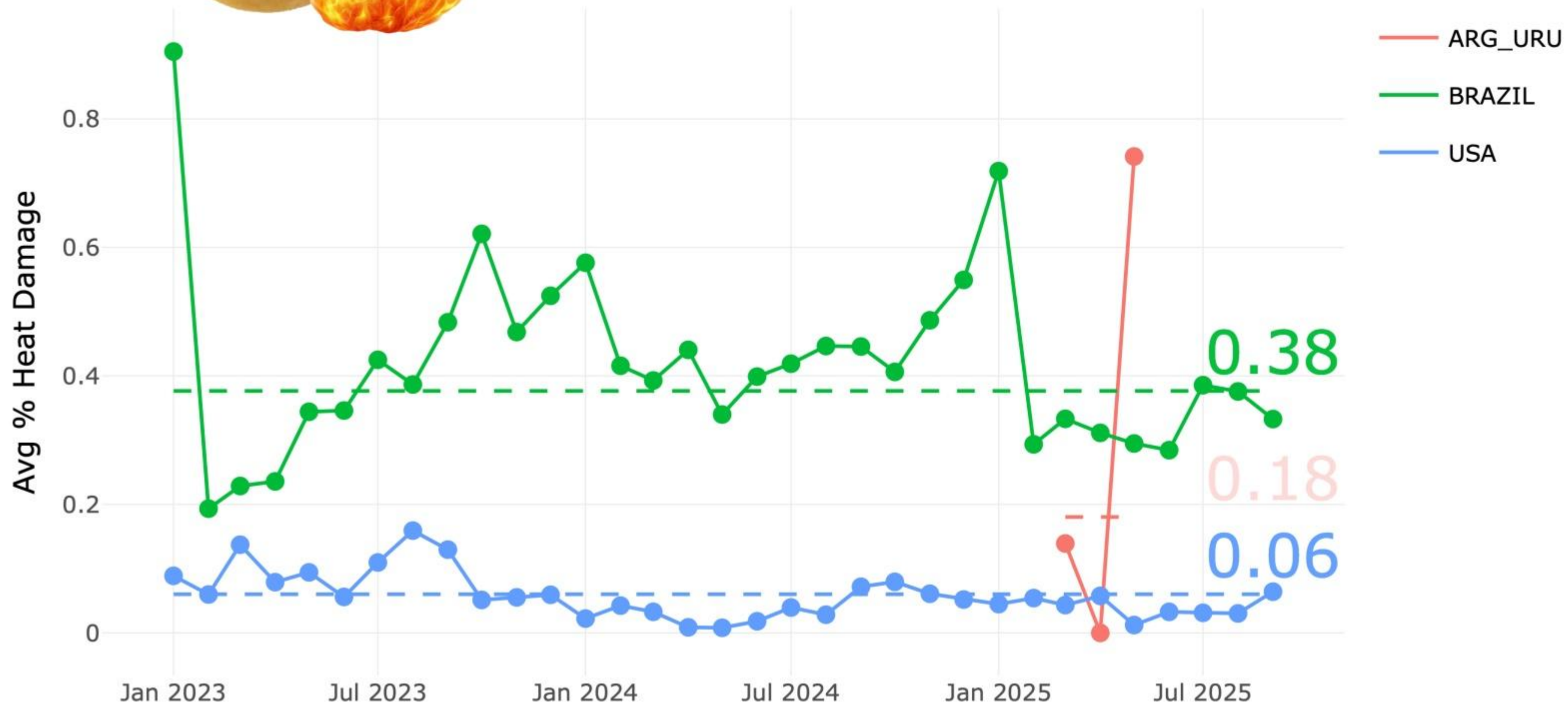


















**Section 2. MEAL QUALITY**

The standard of quality shall be the soybean meal of fair merchantable quality conforming to standard definitions and standard specifications of the Association, as set forth in these Trading Rules. Analysis shall be made in accordance with methods approved by the American Oil Chemists’ Society (AOCS) in effect as of the date of the contract. [See Appendix A, Section 2]

**Section 3. MEAL SPECIFICATIONS**

**All specifications can be modified based on agreements between buyer and seller.**

Soybean Meal (as defined above under Rule 2, Section1)

Typical soybean meal product specifications are as follows:

|                    |               |
|--------------------|---------------|
| Protein (Range)    | 44.0 – 49.0 % |
| Fat                | 0.5 %         |
| Fiber (Maximum)    | 3.5 %         |
| Moisture (Maximum) | 12.0 %        |

In accordance with industry practices and as allowed under the 2024 AAFCO Official Publication, soybean meal products may also contain the following:

|                             |                                                   |
|-----------------------------|---------------------------------------------------|
| Flowability Agent (Maximum) | 0.5% or 10 lbs per ton by weight of total product |
| Spent Bleach Clay (Maximum) | 0.2% or 4 lbs per ton by weight of total product  |



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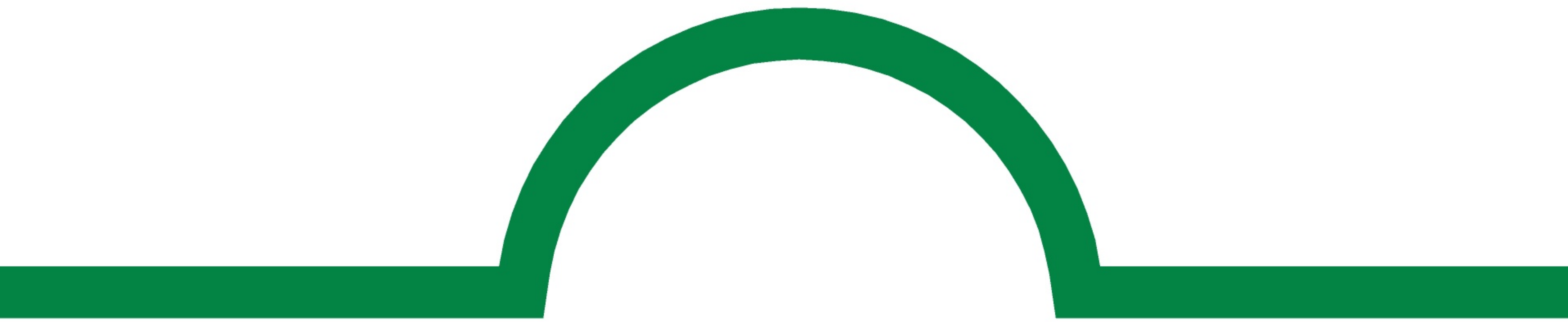
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**What is protein?**





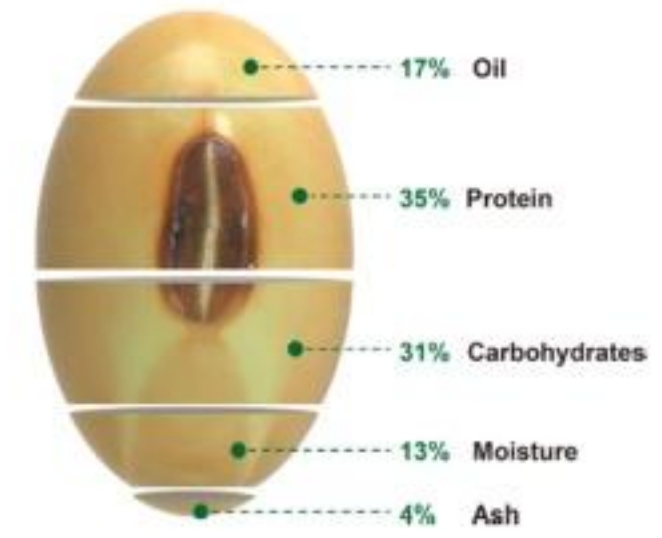
# What is protein?





# What is protein?





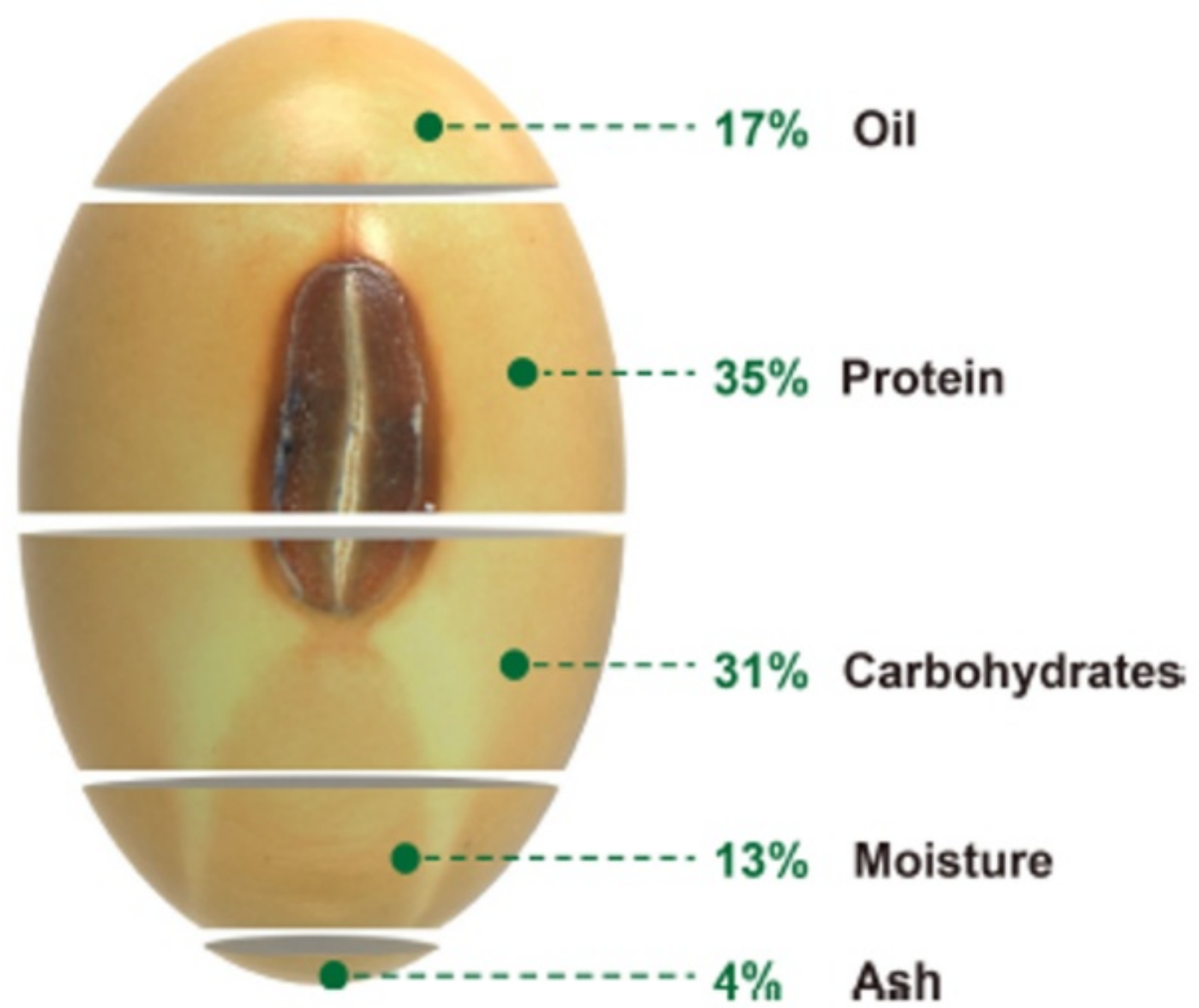




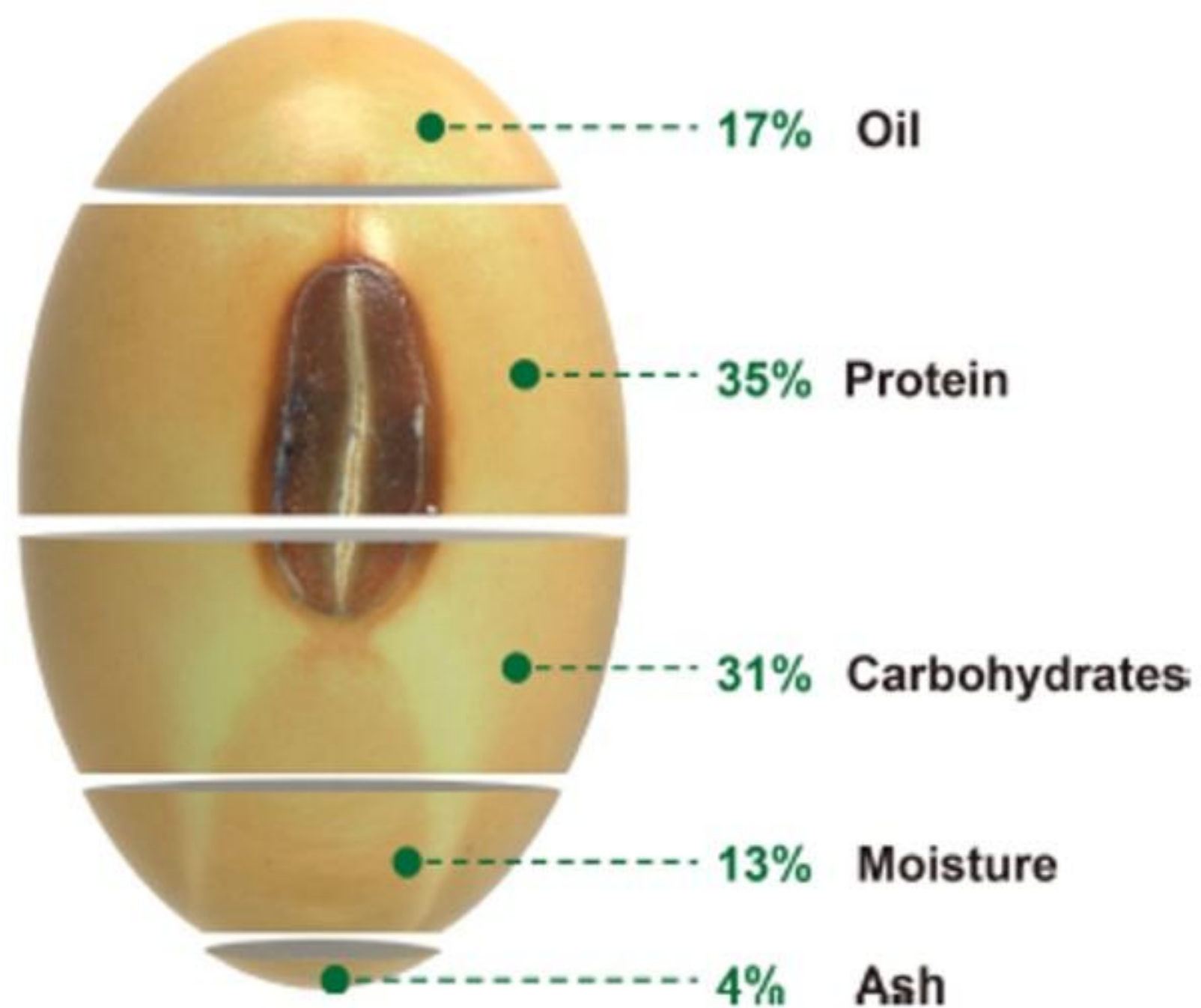








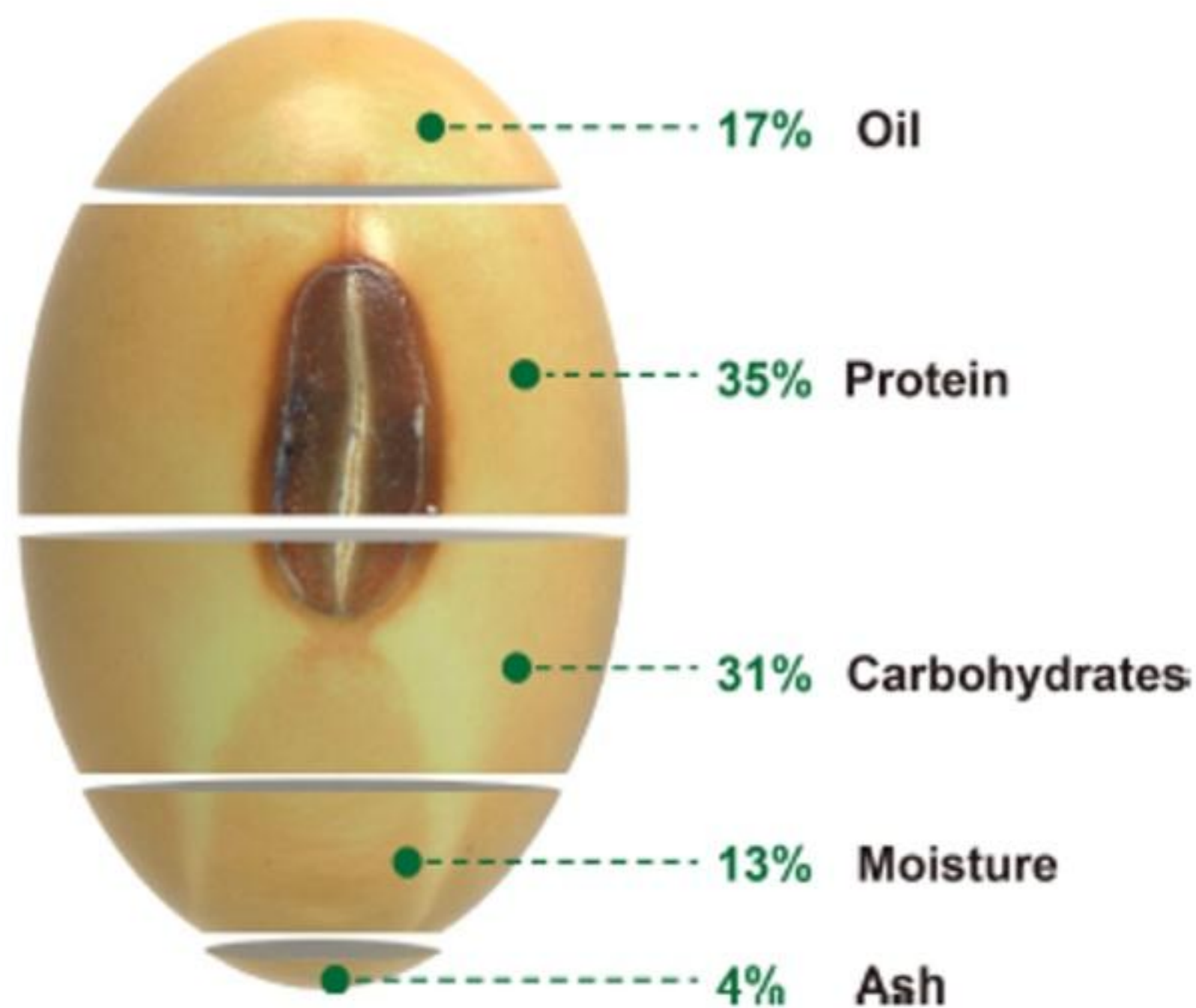




## Classification of AA as EAA, NEAA, and CEAA in Animals<sup>a</sup>

| Mammals <sup>b</sup> |      |                   | Poultry |      |                   | Fish |      |                   |
|----------------------|------|-------------------|---------|------|-------------------|------|------|-------------------|
| EAA                  | NEAA | CEAA <sup>c</sup> | EAA     | NEAA | CEAA <sup>c</sup> | EAA  | NEAA | CEAA <sup>c</sup> |
| Arg                  | Ala  | Gln               | Arg     | Ala  | Gln               | Arg  | Ala  | Gln               |
| Cys                  | Asn  | Glu               | Cys     | Asn  | Glu               | Cys  | Asn  | Glu               |
| His                  | Asp  | Gly               | Gly     | Asp  | Tau               | His  | Asp  | Gly               |
| Ile                  | Ser  | Pro               | His     | Ser  |                   | Ile  | Ser  | Tau               |
| Leu                  |      | Tau               | Ile     |      |                   | Leu  |      |                   |
| Lys                  |      |                   | Leu     |      |                   | Lys  |      |                   |
| Met                  |      |                   | Lys     |      |                   | Met  |      |                   |
| Phe                  |      |                   | Met     |      |                   | Phe  |      |                   |
| Thr                  |      |                   | Phe     |      |                   | Pro  |      |                   |
| Trp                  |      |                   | Pro     |      |                   | Thr  |      |                   |
| Tyr                  |      |                   | Thr     |      |                   | Trp  |      |                   |
| Val                  |      |                   | Trp     |      |                   | Tyr  |      |                   |
|                      |      |                   | Tyr     |      |                   | Val  |      |                   |
|                      |      |                   | Val     |      |                   |      |      |                   |

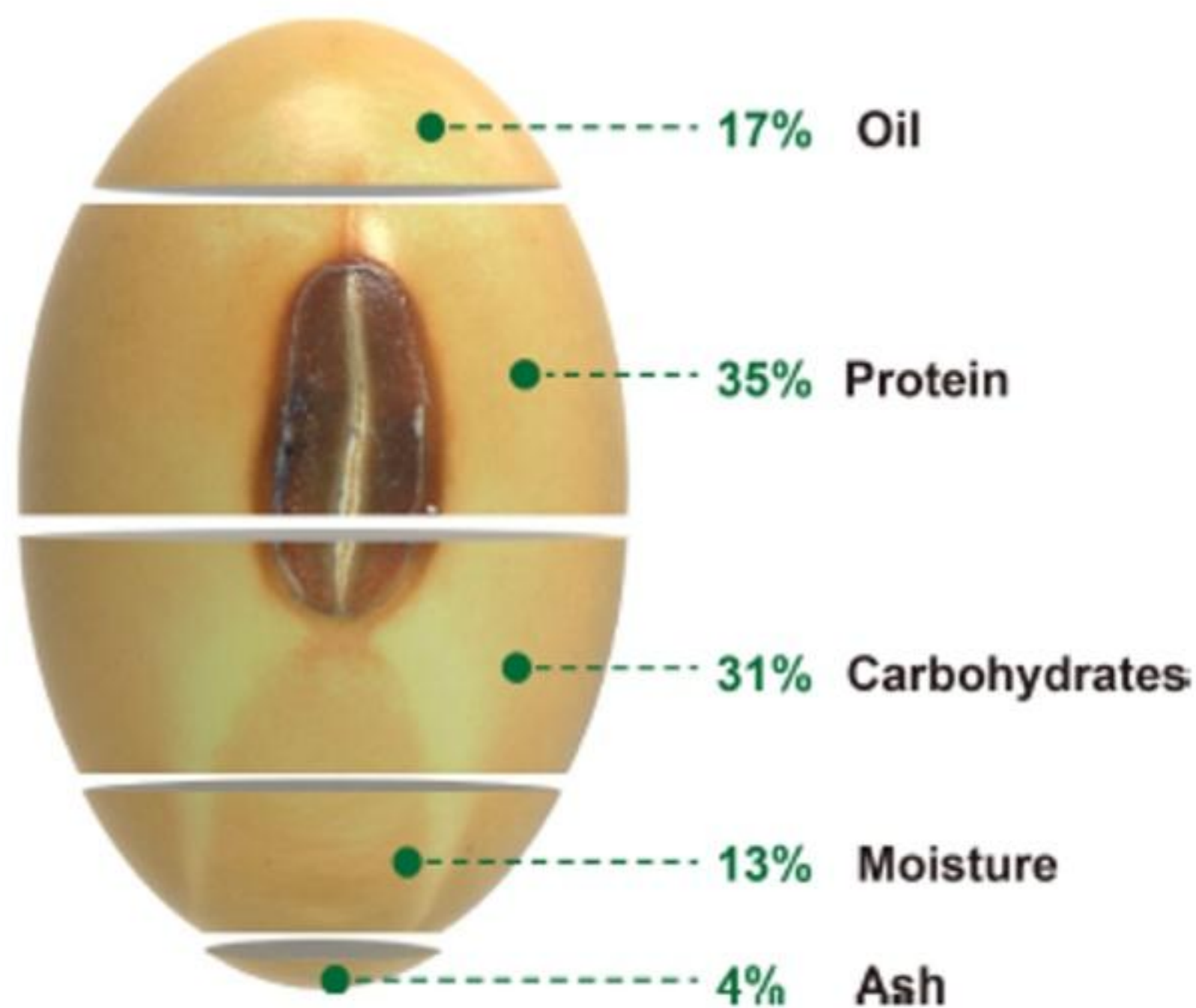




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|----------------------|------|-------------------|---------|------|-------------------|------|------|-------------------|
| <u>EAA</u>           | NEAA | CEAA <sup>c</sup> | EAA     | NEAA | CEAA <sup>c</sup> | EAA  | NEAA | CEAA <sup>c</sup> |
| Arg                  | Ala  | Gln               | Arg     | Ala  | Gln               | Arg  | Ala  | Gln               |
| Cys                  | Asn  | Glu               | Cys     | Asn  | Glu               | Cys  | Asn  | Glu               |
| His                  | Asp  | Gly               | Gly     | Asp  | Tau               | His  | Asp  | Gly               |
| Ile                  | Ser  | Pro               | His     | Ser  |                   | Ile  | Ser  | Tau               |
| Leu                  |      | Tau               | Ile     |      |                   | Leu  |      |                   |
| Lys                  |      |                   | Leu     |      |                   | Lys  |      |                   |
| Met                  |      |                   | Lys     |      |                   | Met  |      |                   |
| Phe                  |      |                   | Met     |      |                   | Phe  |      |                   |
| Thr                  |      |                   | Phe     |      |                   | Pro  |      |                   |
| Trp                  |      |                   | Pro     |      |                   | Thr  |      |                   |
| Tyr                  |      |                   | Thr     |      |                   | Trp  |      |                   |
| Val                  |      |                   | Trp     |      |                   | Tyr  |      |                   |
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|                      |      |                   | Val     |      |                   |      |      |                   |

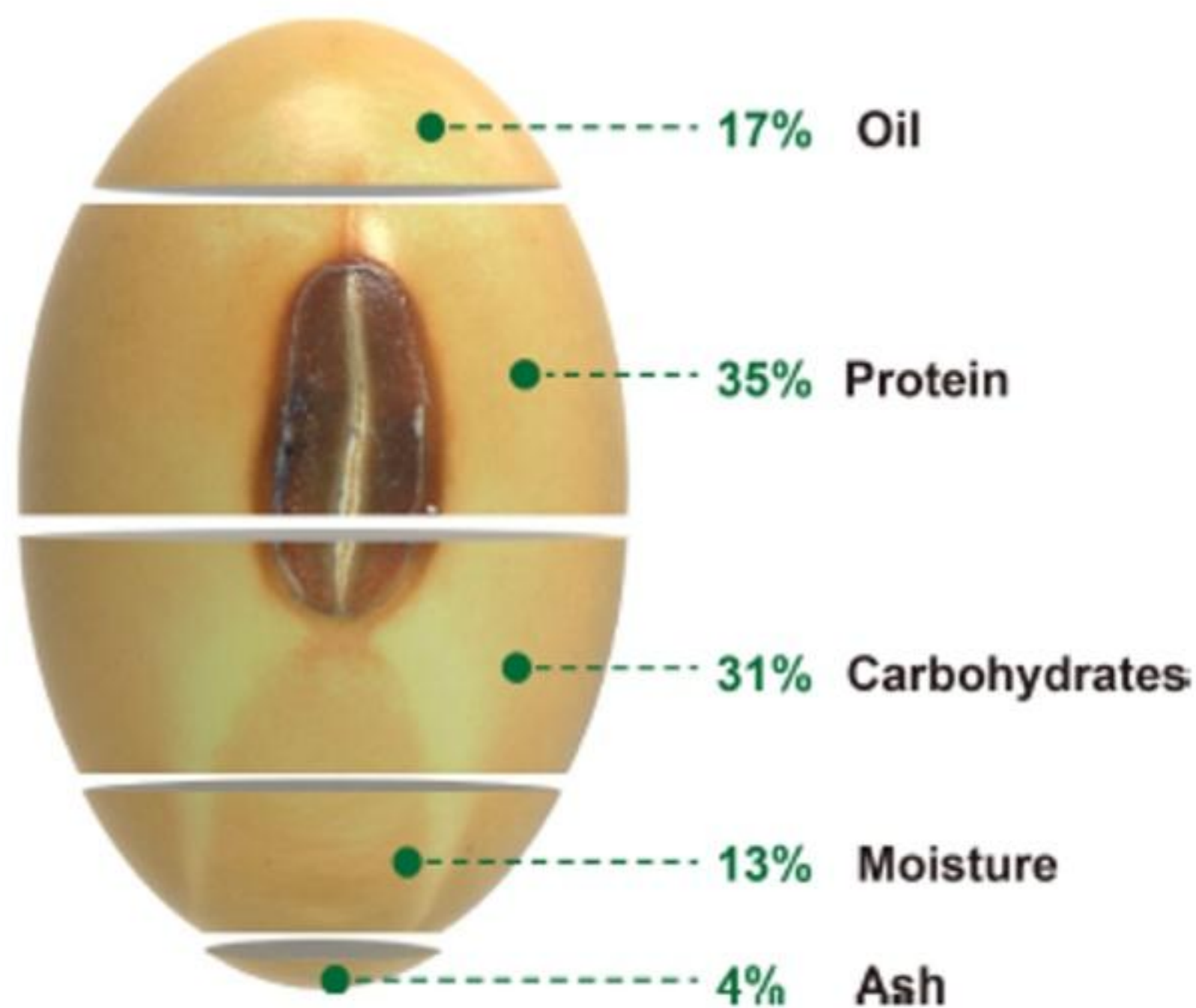




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| Mammals <sup>b</sup> |             |                   | Poultry |      |                   | Fish |      |                   |
|----------------------|-------------|-------------------|---------|------|-------------------|------|------|-------------------|
| <u>EAA</u>           | <u>NEAA</u> | CEAA <sup>c</sup> | EAA     | NEAA | CEAA <sup>c</sup> | EAA  | NEAA | CEAA <sup>c</sup> |
| Arg                  | Ala         | Gln               | Arg     | Ala  | Gln               | Arg  | Ala  | Gln               |
| Cys                  | Asn         | Glu               | Cys     | Asn  | Glu               | Cys  | Asn  | Glu               |
| His                  | Asp         | Gly               | Gly     | Asp  | Tau               | His  | Asp  | Gly               |
| Ile                  | Ser         | Pro               | His     | Ser  |                   | Ile  | Ser  | Tau               |
| Leu                  |             | Tau               | Ile     |      |                   | Leu  |      |                   |
| Lys                  |             |                   | Leu     |      |                   | Lys  |      |                   |
| Met                  |             |                   | Lys     |      |                   | Met  |      |                   |
| Phe                  |             |                   | Met     |      |                   | Phe  |      |                   |
| Thr                  |             |                   | Phe     |      |                   | Pro  |      |                   |
| Trp                  |             |                   | Pro     |      |                   | Thr  |      |                   |
| Tyr                  |             |                   | Thr     |      |                   | Trp  |      |                   |
| Val                  |             |                   | Trp     |      |                   | Tyr  |      |                   |
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|                      |             |                   | Val     |      |                   |      |      |                   |

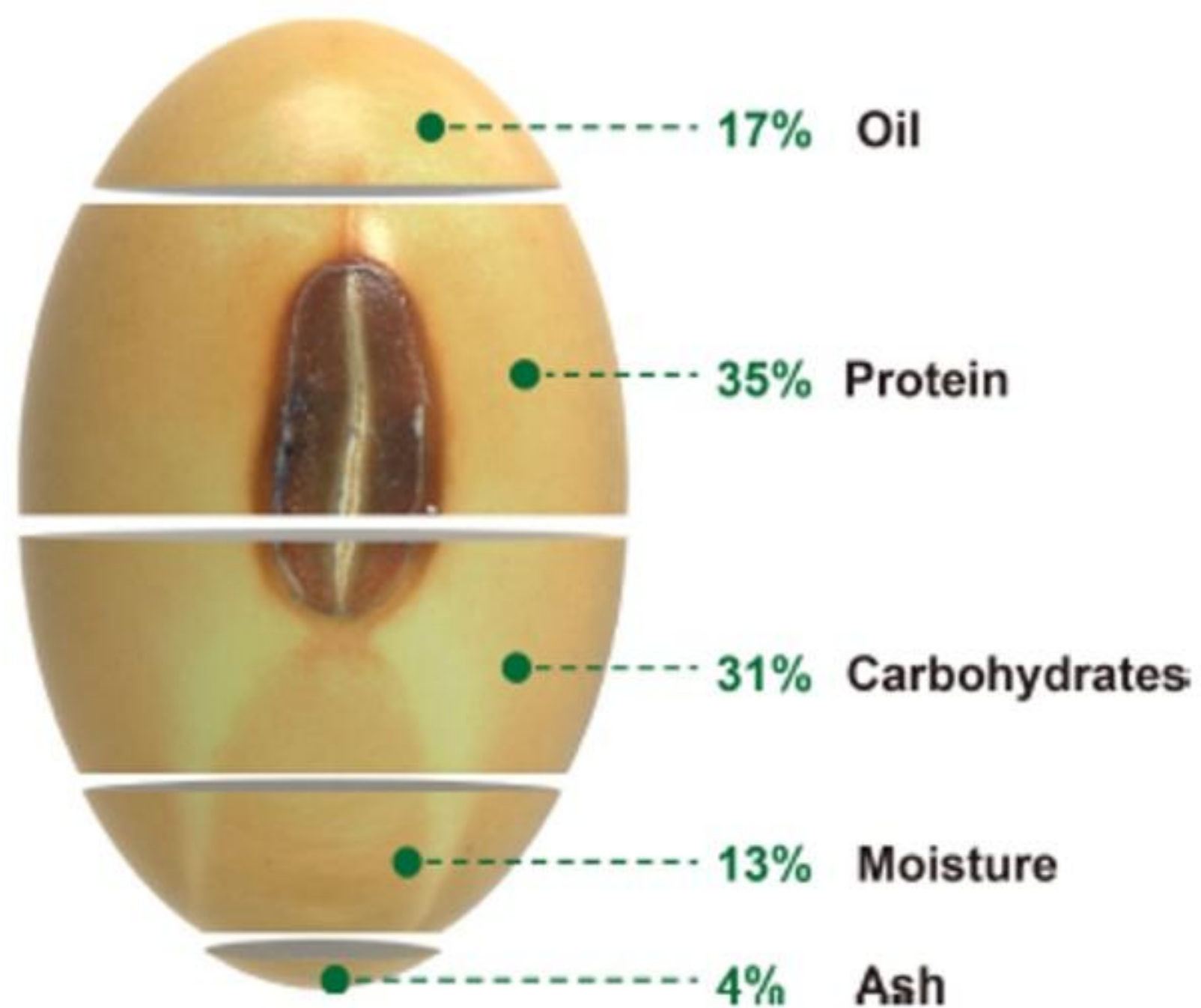




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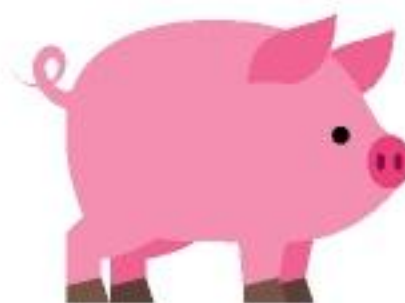
| Mammals <sup>b</sup> |             |                         | Poultry |      |                   | Fish |      |                   |
|----------------------|-------------|-------------------------|---------|------|-------------------|------|------|-------------------|
| <u>EAA</u>           | <u>NEAA</u> | <u>CEAA<sup>c</sup></u> | EAA     | NEAA | CEAA <sup>c</sup> | EAA  | NEAA | CEAA <sup>c</sup> |
| Arg                  | Ala         | Gln                     | Arg     | Ala  | Gln               | Arg  | Ala  | Gln               |
| Cys                  | Asn         | Glu                     | Cys     | Asn  | Glu               | Cys  | Asn  | Glu               |
| His                  | Asp         | Gly                     | Gly     | Asp  | Tau               | His  | Asp  | Gly               |
| Ile                  | Ser         | Pro                     | His     | Ser  |                   | Ile  | Ser  | Tau               |
| Leu                  |             | Tau                     | Ile     |      |                   | Leu  |      |                   |
| Lys                  |             |                         | Leu     |      |                   | Lys  |      |                   |
| Met                  |             |                         | Lys     |      |                   | Met  |      |                   |
| Phe                  |             |                         | Met     |      |                   | Phe  |      |                   |
| Thr                  |             |                         | Phe     |      |                   | Pro  |      |                   |
| Trp                  |             |                         | Pro     |      |                   | Thr  |      |                   |
| Tyr                  |             |                         | Thr     |      |                   | Trp  |      |                   |
| Val                  |             |                         | Trp     |      |                   | Tyr  |      |                   |
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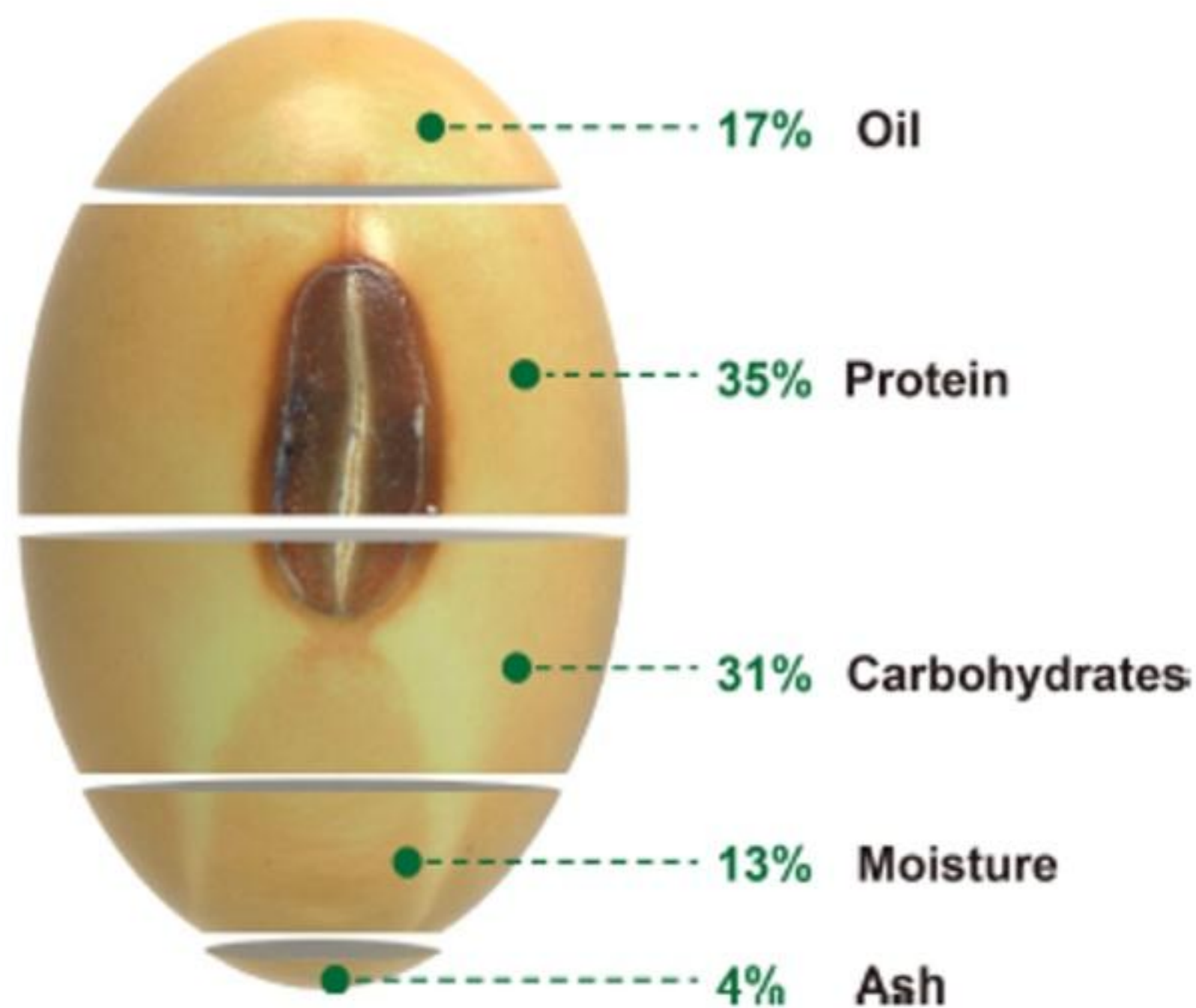


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| Arg                  | Ala         | Gln                     | Arg     | Ala  | Gln               | Arg  | Ala  | Gln               |
| Cys                  | Asn         | Glu                     | Cys     | Asn  | Glu               | Cys  | Asn  | Glu               |
| His                  | Asp         | Gly                     | Gly     | Asp  | Tau               | His  | Asp  | Gly               |
| Ile                  | Ser         | Pro                     | His     | Ser  |                   | Ile  | Ser  | Tau               |
| Leu                  |             | Tau                     | Ile     |      |                   | Leu  |      |                   |
| Lys                  |             |                         | Leu     |      |                   | Lys  |      |                   |
| Met                  |             |                         | Lys     |      |                   | Met  |      |                   |
| Phe                  |             |                         | Met     |      |                   | Phe  |      |                   |
| Thr                  |             |                         | Phe     |      |                   | Pro  |      |                   |
| Trp                  |             |                         | Pro     |      |                   | Thr  |      |                   |
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|                      |             |                         | Tyr     |      |                   | Val  |      |                   |
|                      |             |                         | Val     |      |                   |      |      |                   |

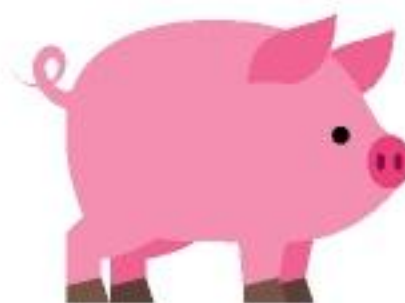




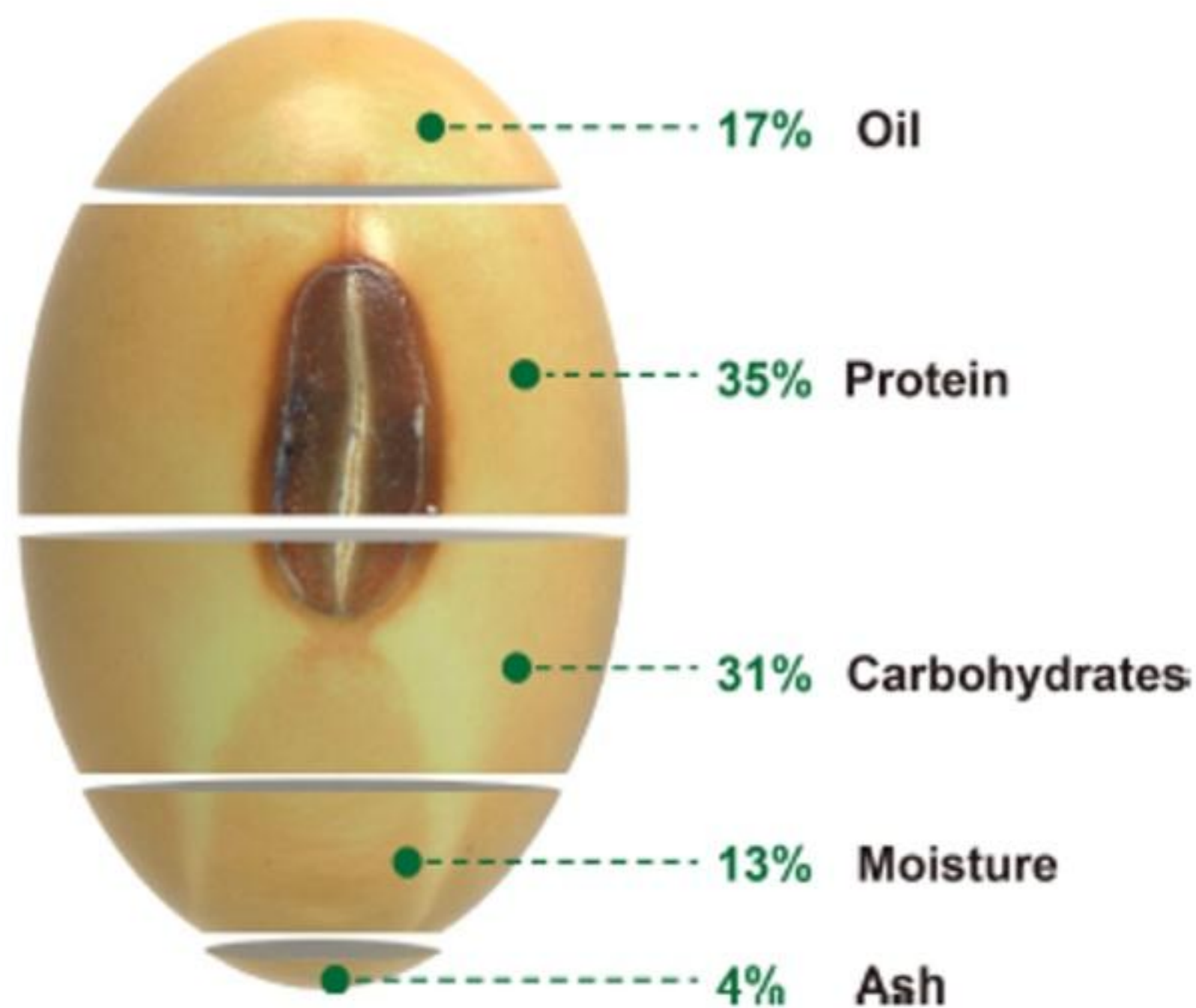


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| Arg                  | Ala         | Gln                     | Arg     | Ala  | Gln               | Arg  | Ala  | Gln               |
| Cys                  | Asn         | Glu                     | Cys     | Asn  | Glu               | Cys  | Asn  | Glu               |
| His                  | Asp         | Gly                     | Gly     | Asp  | Tau               | His  | Asp  | Gly               |
| Ile                  | Ser         | Pro                     | His     | Ser  |                   | Ile  | Ser  | Tau               |
| Leu                  |             | Tau                     | Ile     |      |                   | Leu  |      |                   |
| Lys                  |             |                         | Leu     |      |                   | Lys  |      |                   |
| Met                  |             |                         | Lys     |      |                   | Met  |      |                   |
| Phe                  |             |                         | Met     |      |                   | Phe  |      |                   |
| Thr                  |             |                         | Phe     |      |                   | Pro  |      |                   |
| Trp                  |             |                         | Pro     |      |                   | Thr  |      |                   |
| Tyr                  |             |                         | Thr     |      |                   | Trp  |      |                   |
| Val                  |             |                         | Trp     |      |                   | Tyr  |      |                   |
|                      |             |                         | Tyr     |      |                   | Val  |      |                   |
|                      |             |                         | Val     |      |                   |      |      |                   |

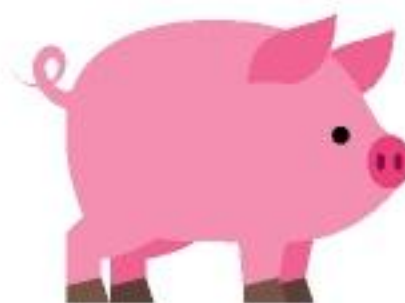






## Classification of AA as EAA, NEAA, and CEAA in Animals<sup>a</sup>

| Mammals <sup>b</sup> |             |                         | Poultry |      |                   | Fish |      |                   |
|----------------------|-------------|-------------------------|---------|------|-------------------|------|------|-------------------|
| <u>EAA</u>           | <u>NEAA</u> | <u>CEAA<sup>c</sup></u> | EAA     | NEAA | CEAA <sup>c</sup> | EAA  | NEAA | CEAA <sup>c</sup> |
| Arg                  | Ala         | Gln                     | Arg     | Ala  | Gln               | Arg  | Ala  | Gln               |
| Cys                  | Asn         | Glu                     | Cys     | Asn  | Glu               | Cys  | Asn  | Glu               |
| His                  | Asp         | Gly                     | Gly     | Asp  | Tau               | His  | Asp  | Gly               |
| Ile                  | Ser         | Pro                     | His     | Ser  |                   | Ile  | Ser  | Tau               |
| Leu                  |             | Tau                     | Ile     |      |                   | Leu  |      |                   |
| Lys                  |             |                         | Leu     |      |                   | Lys  |      |                   |
| Met                  |             |                         | Lys     |      |                   | Met  |      |                   |
| Phe                  |             |                         | Met     |      |                   | Phe  |      |                   |
| Thr                  |             |                         | Phe     |      |                   | Pro  |      |                   |
| Trp                  |             |                         | Pro     |      |                   | Thr  |      |                   |
| Tyr                  |             |                         | Thr     |      |                   | Trp  |      |                   |
| Val                  |             |                         | Trp     |      |                   | Tyr  |      |                   |
|                      |             |                         | Tyr     |      |                   | Val  |      |                   |
|                      |             |                         | Val     |      |                   |      |      |                   |





# Multifunctional Molecules





# Multifunctional Molecules





# Multifunctional Molecules



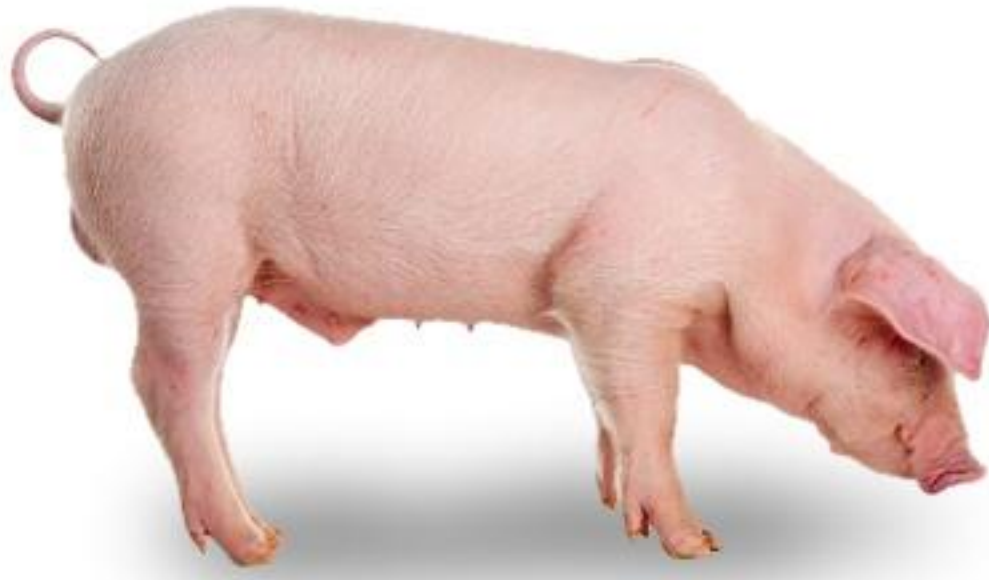


# Multifunctional Molecules



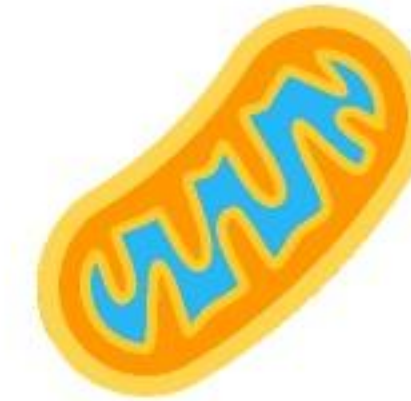
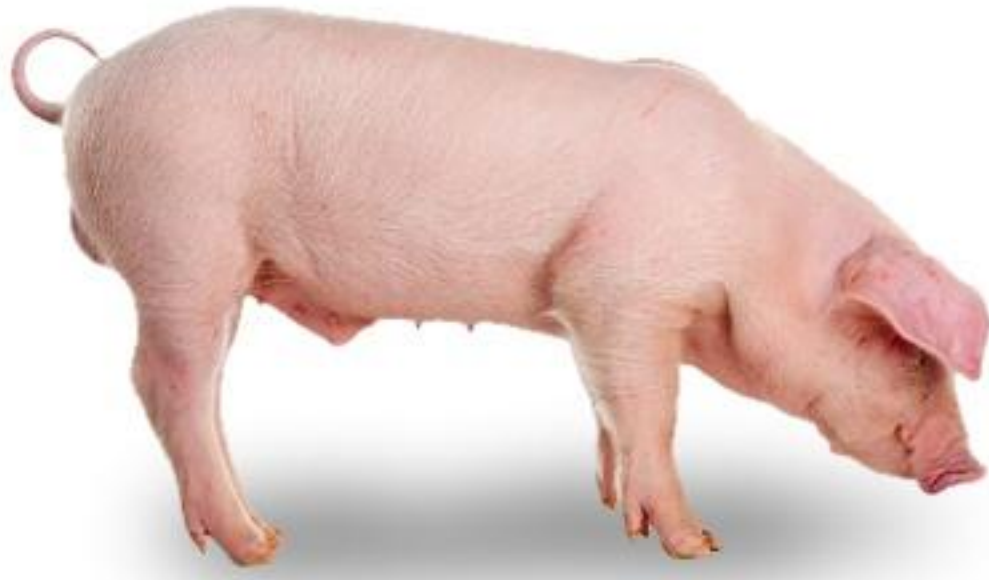


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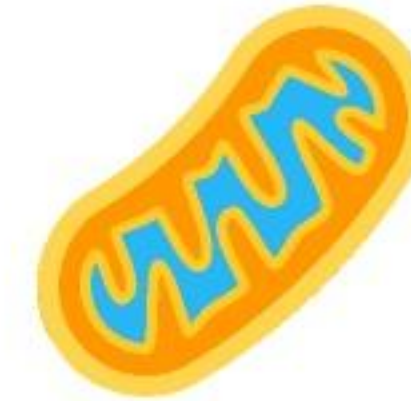
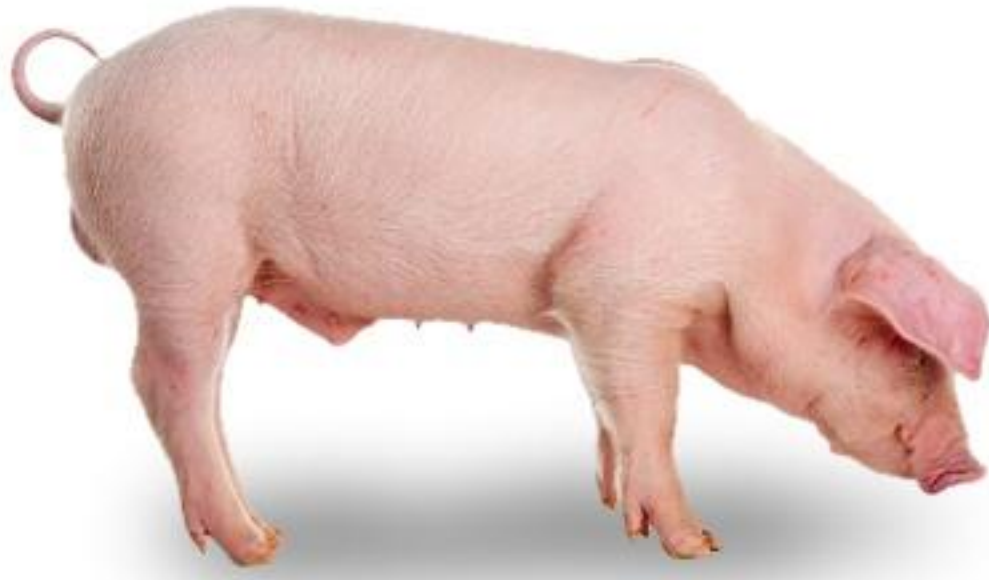


# Multifunctional Molecules



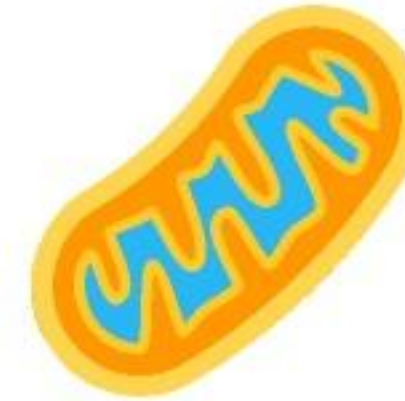
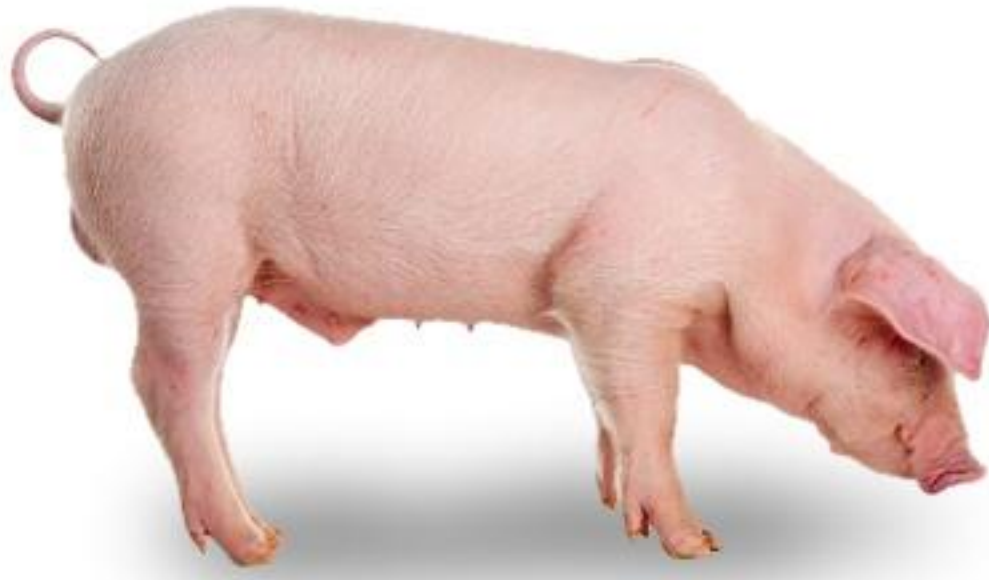


# Multifunctional Molecules



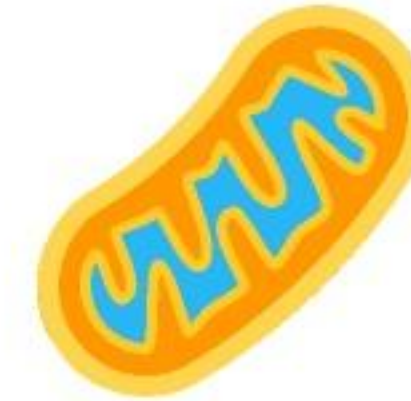
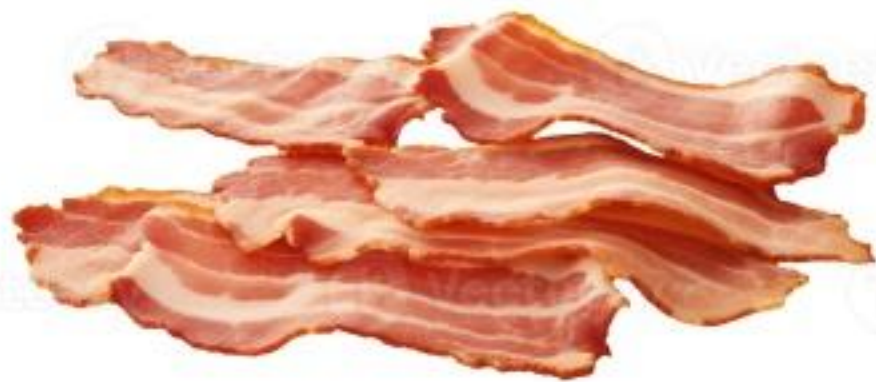
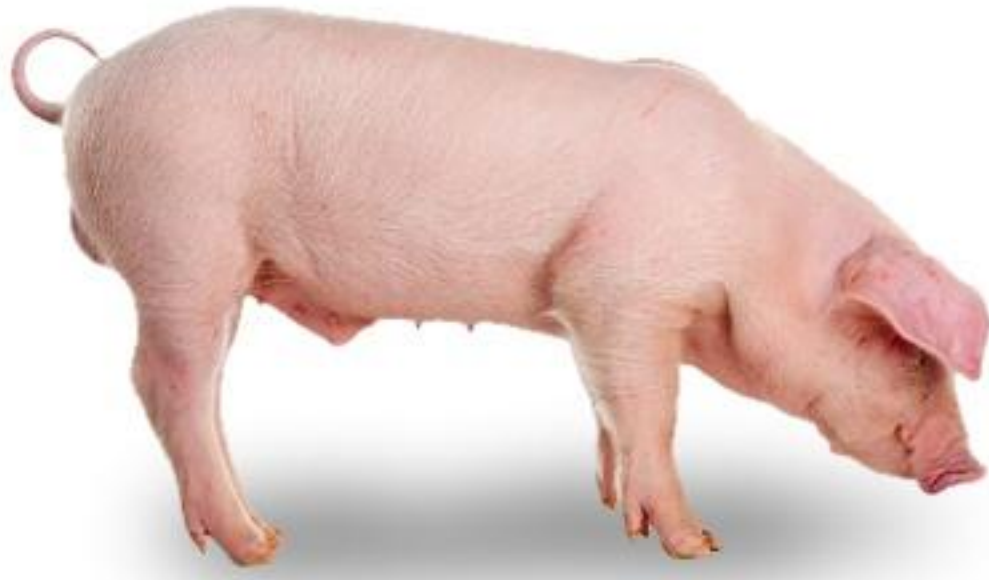


# Multifunctional Molecules





# Multifunctional Molecules



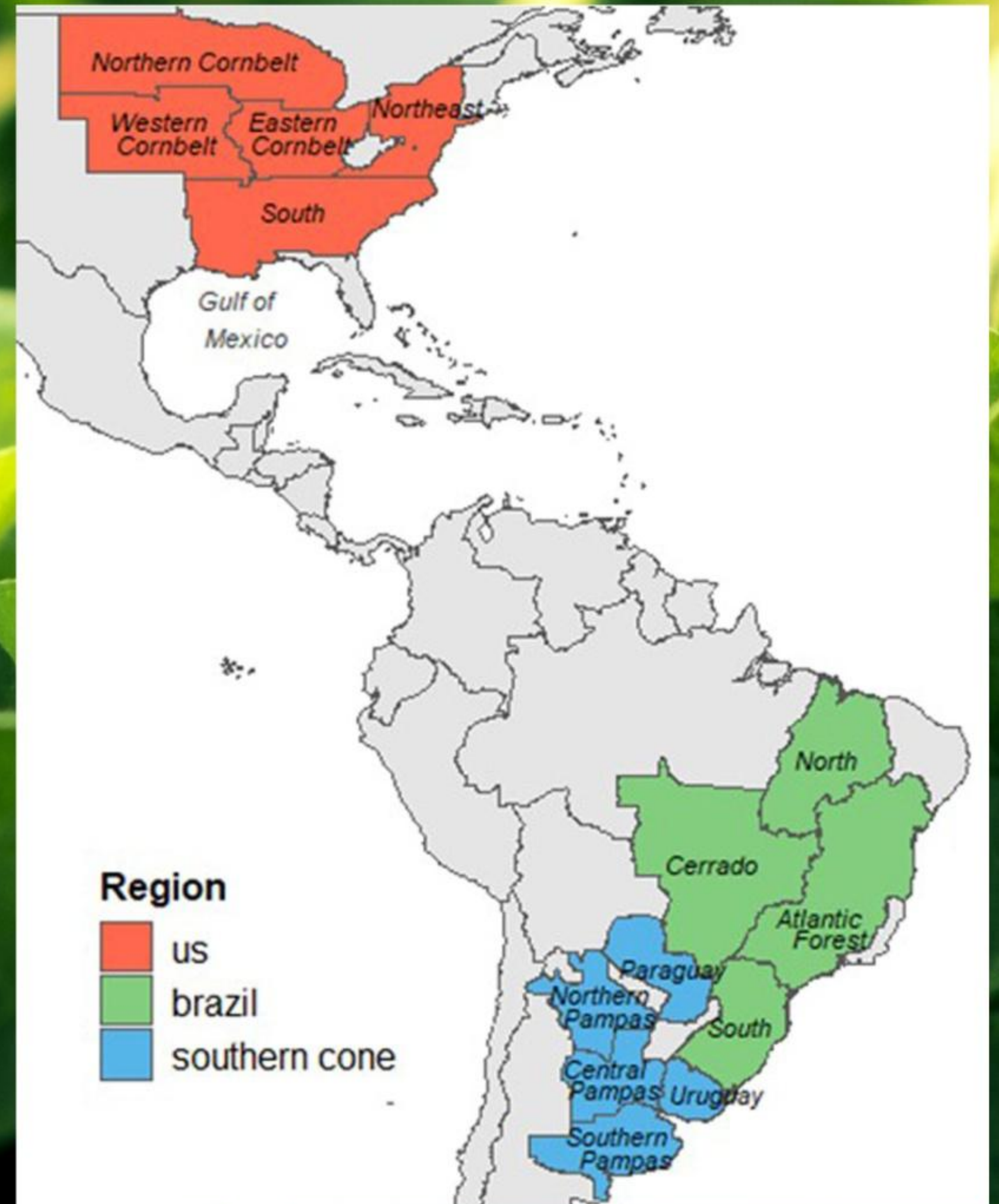


# Origins





# Origins





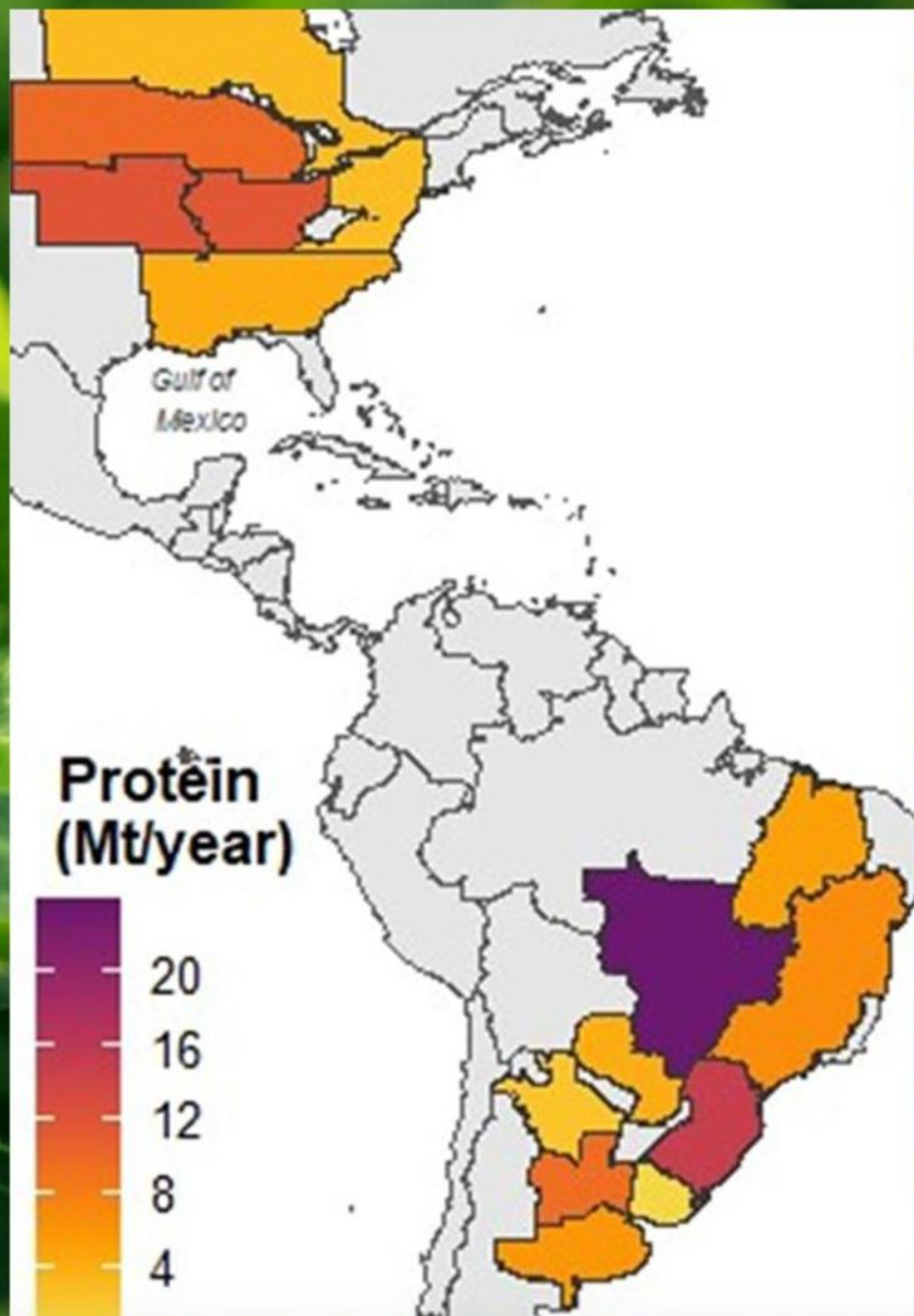
# Origins



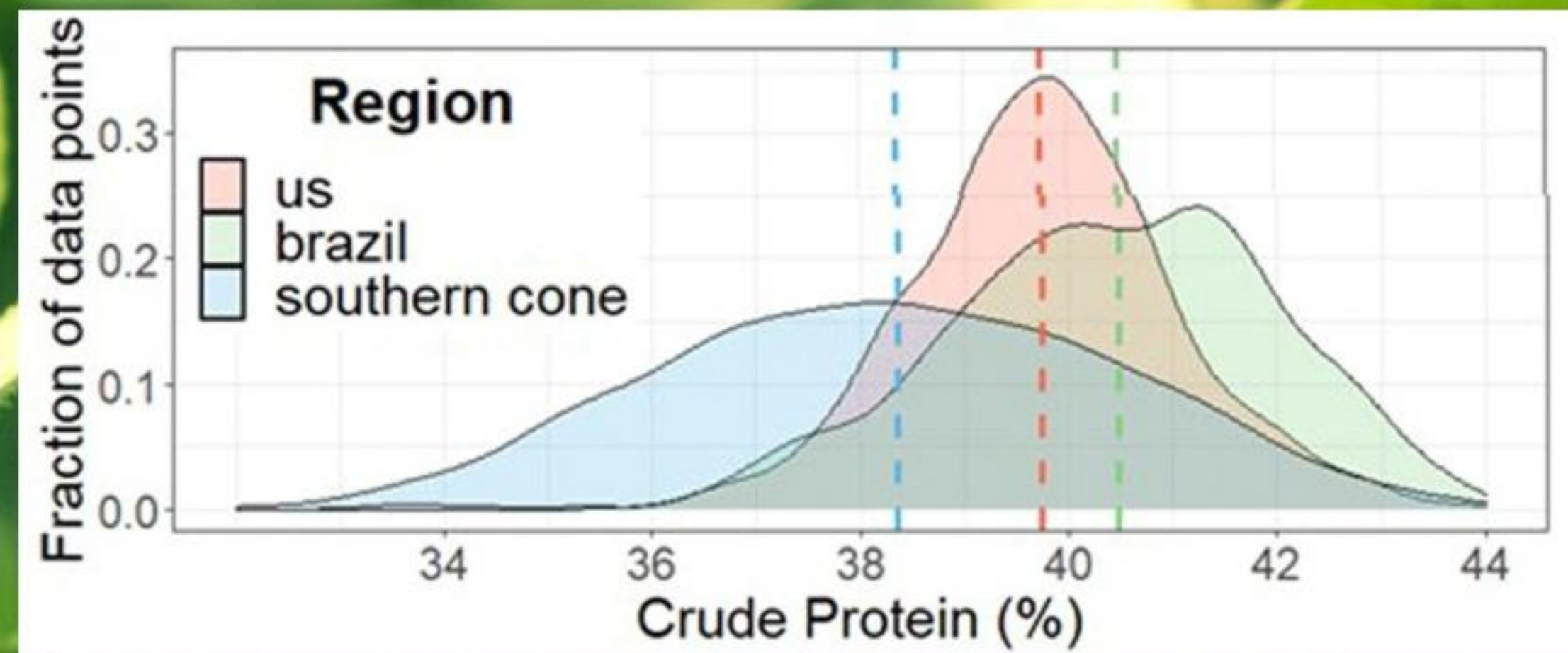
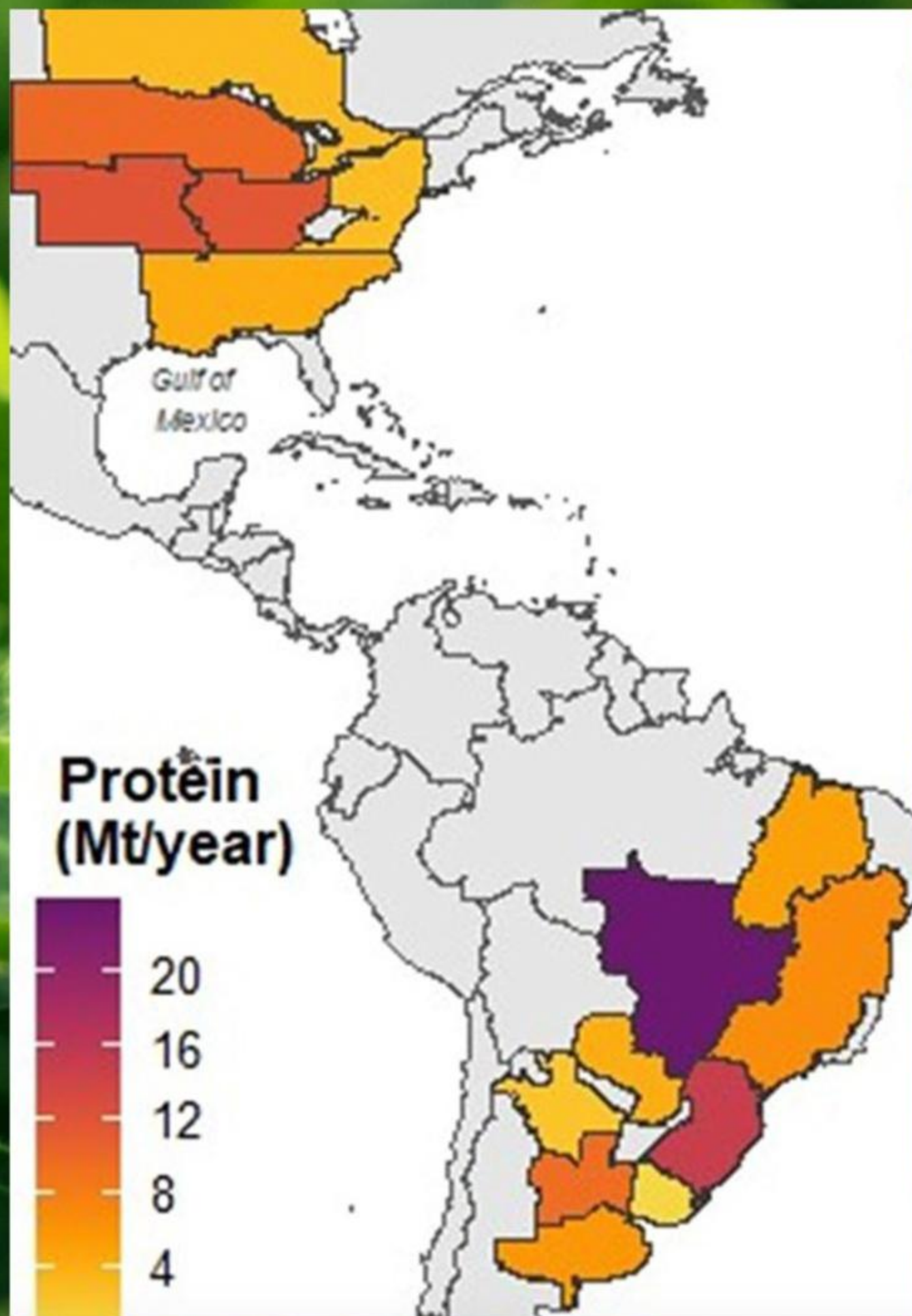




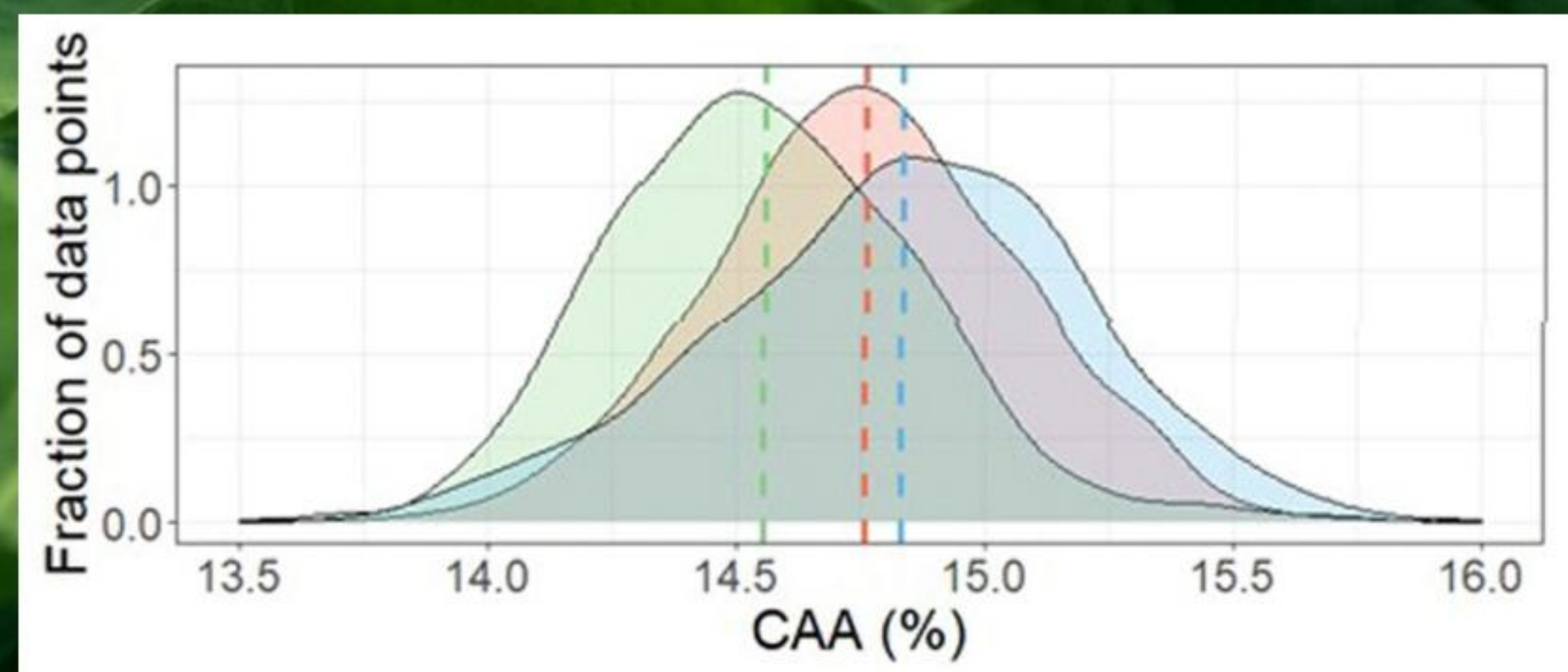
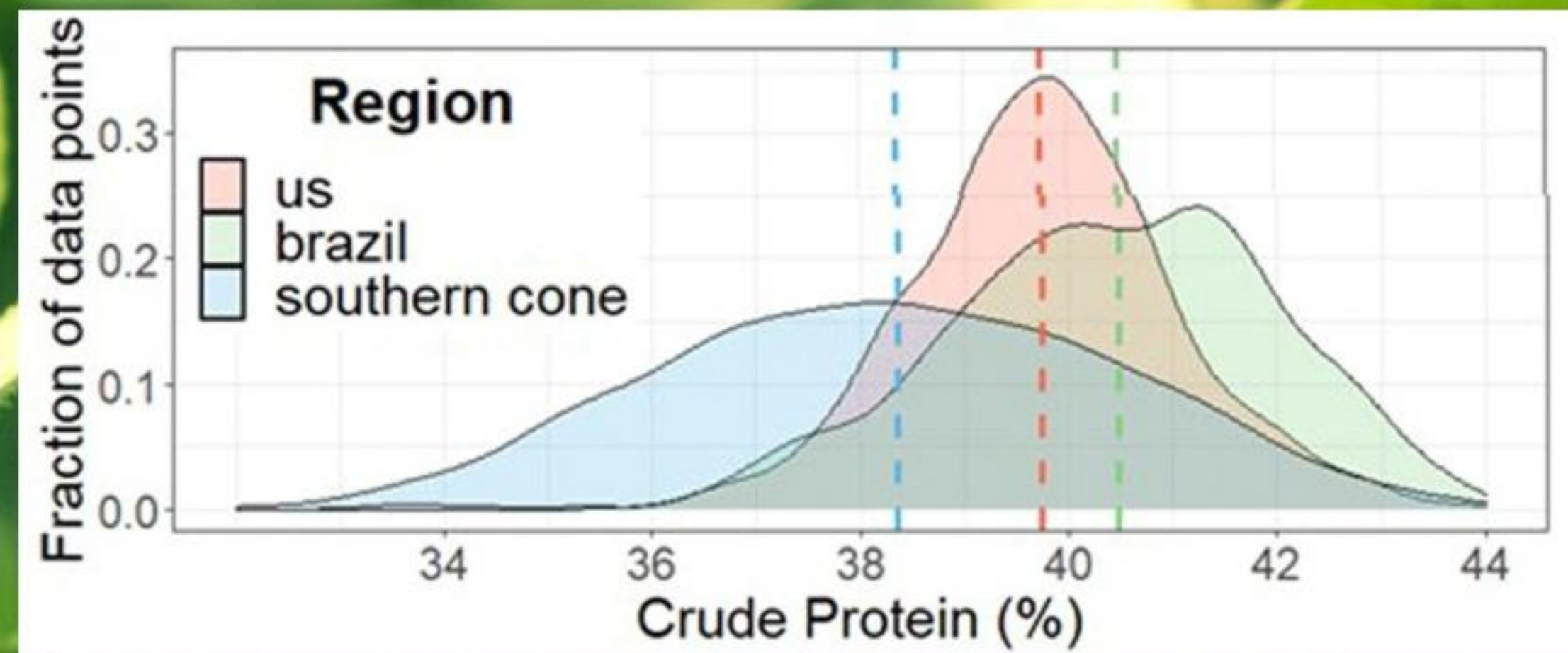
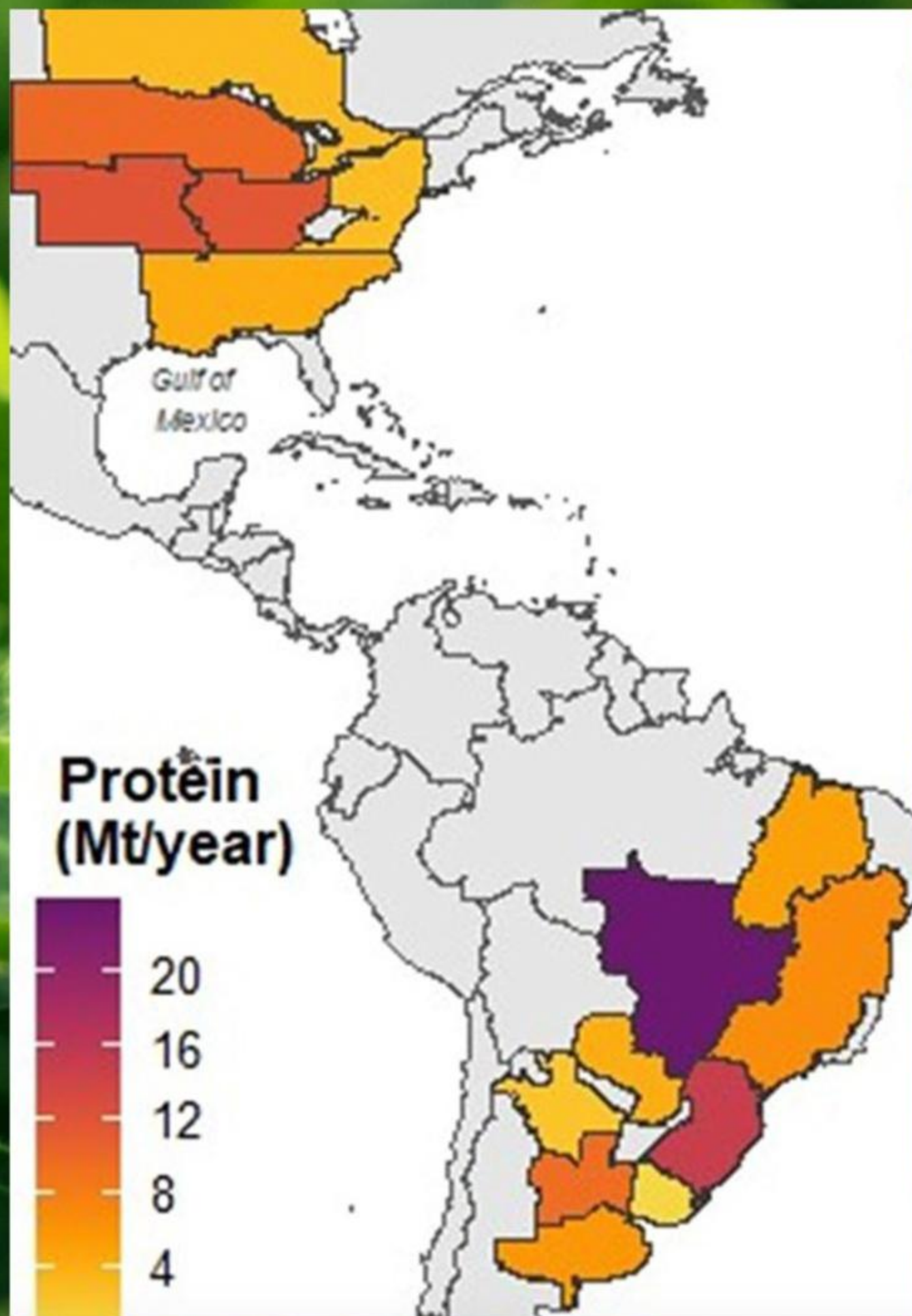




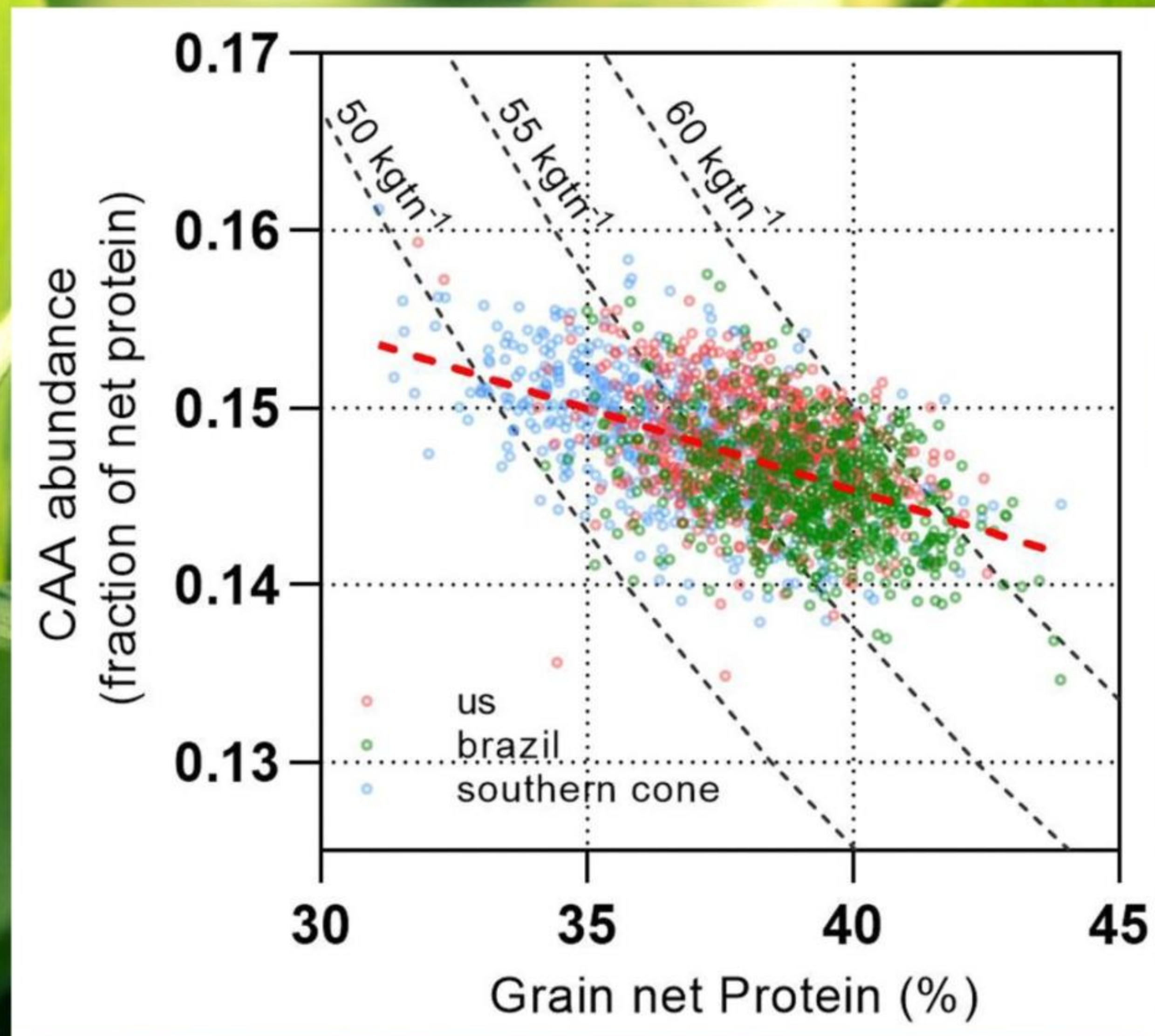
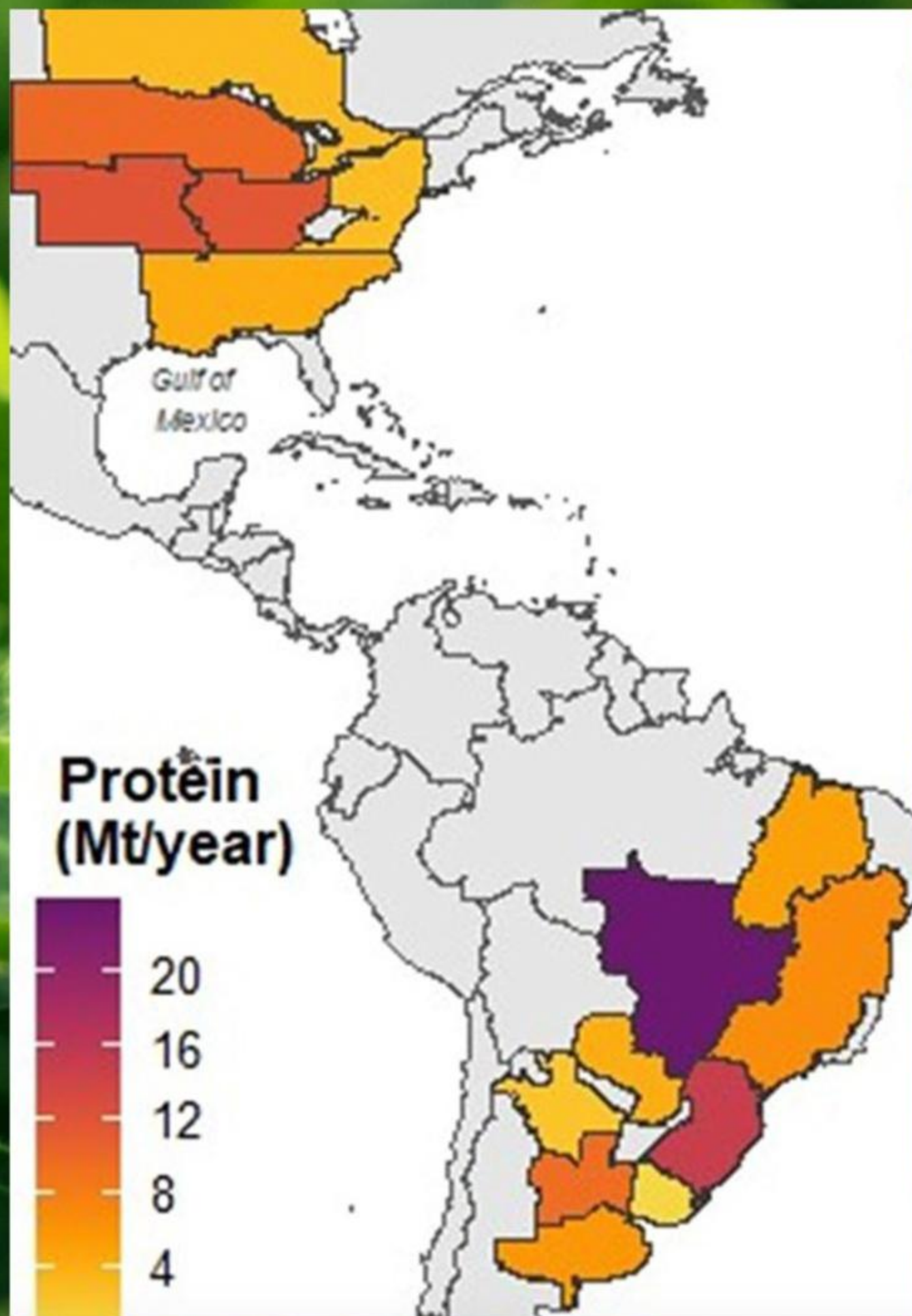




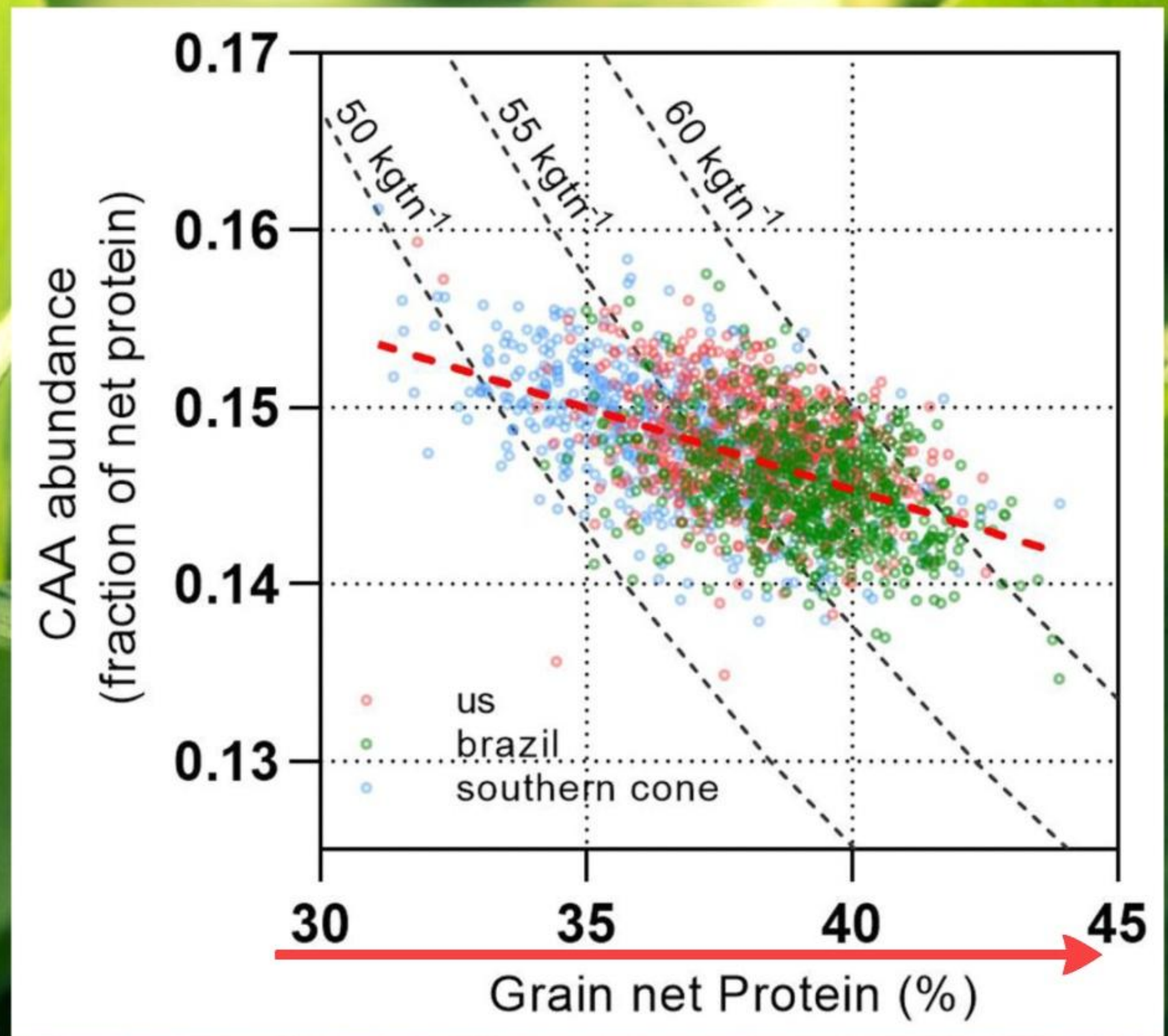
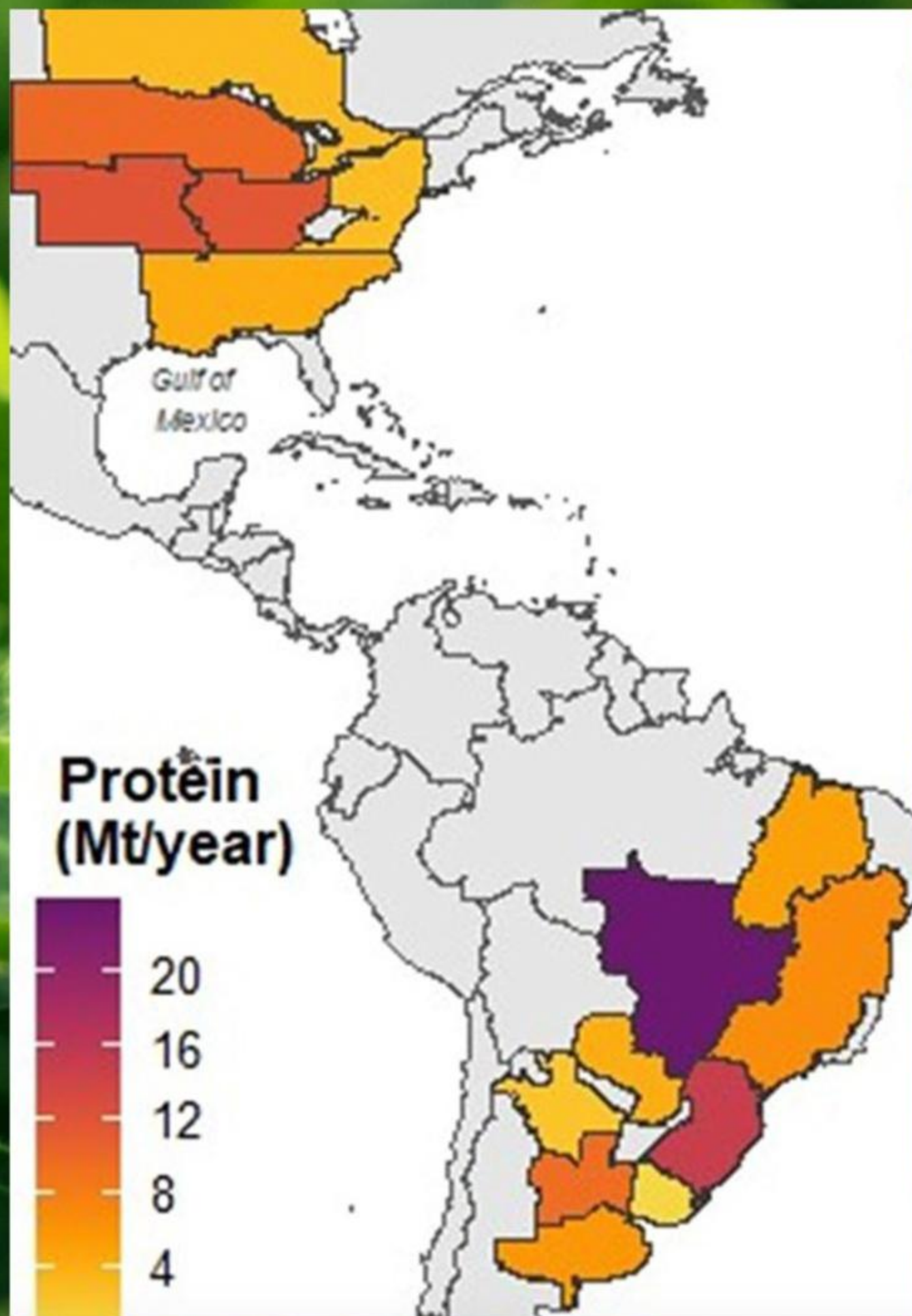














# United States Soybean Meal Quality Differentiators



Harvest and storage.  
Consistency (post-harvest and processing).  
Amino acids profile.  
Energy content.



# United States Soybean Meal Quality Differentiators



Harvest and storage.  
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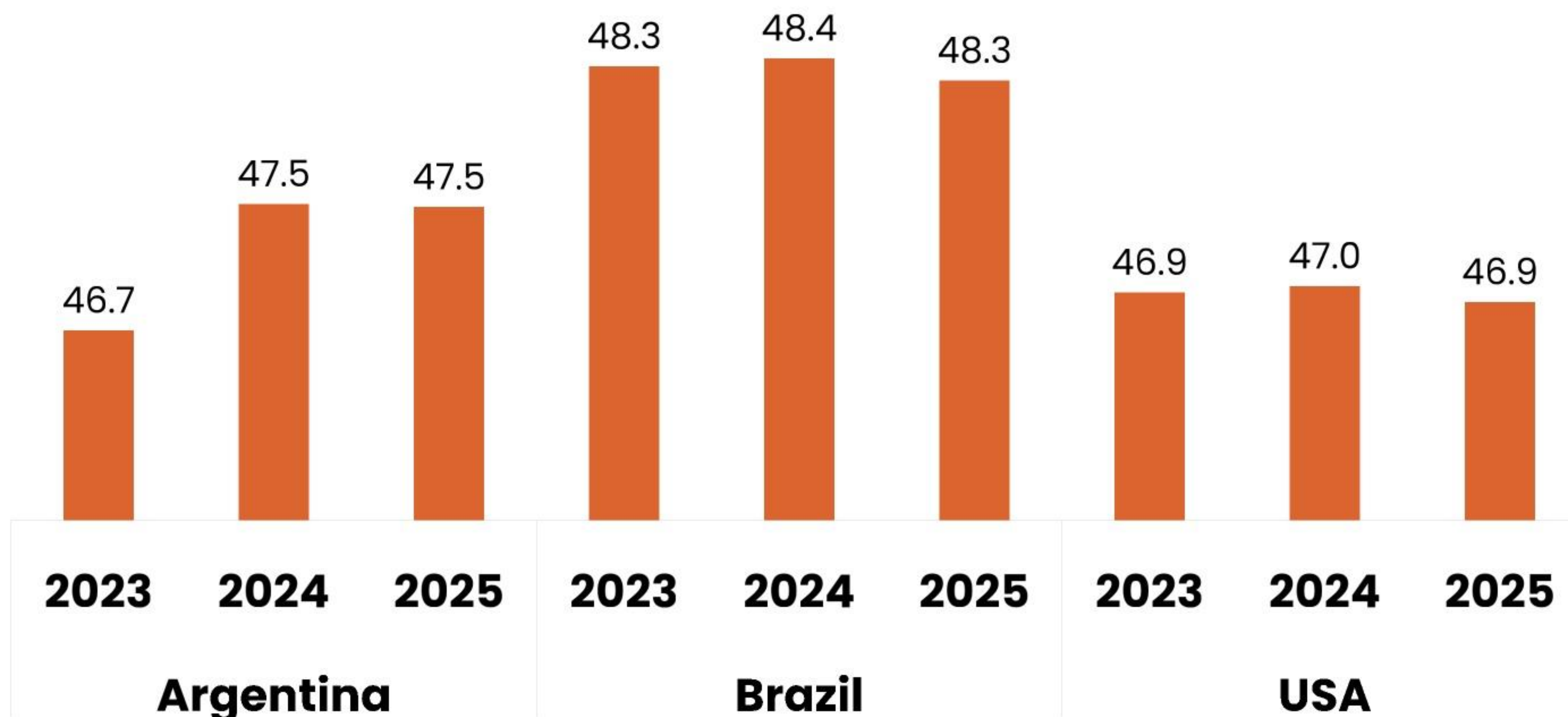
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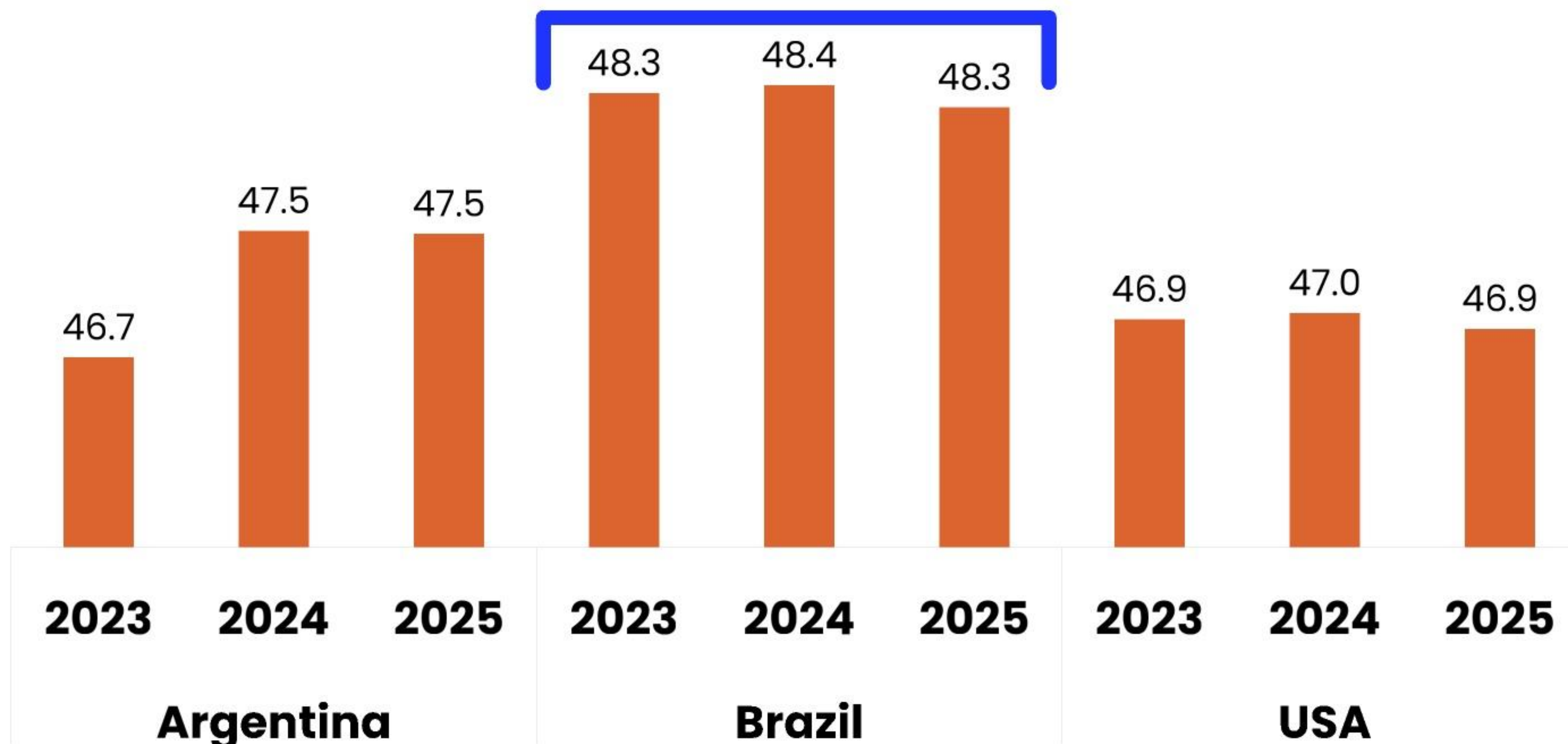


# Crude Protein\*, %



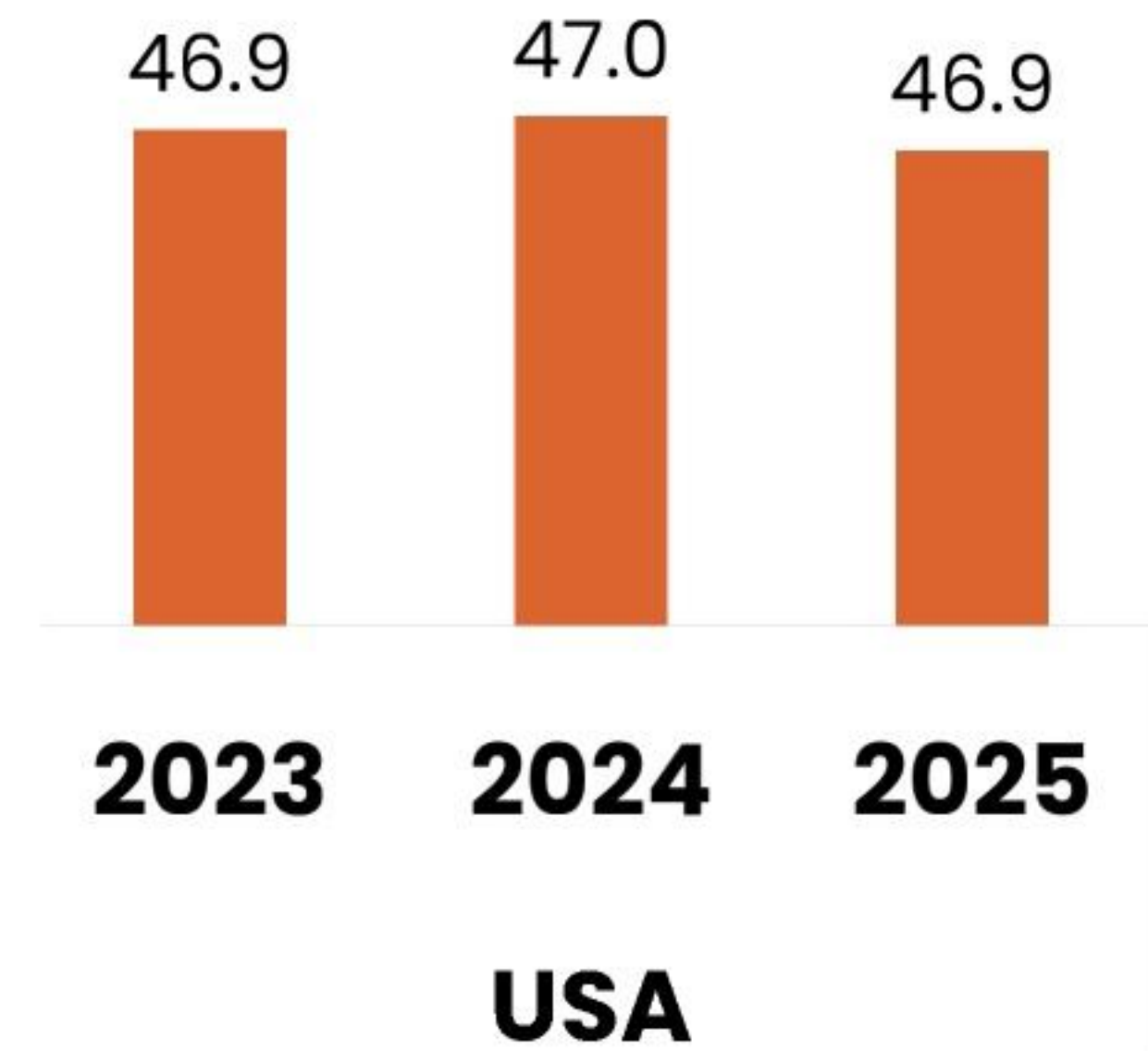


# Crude Protein\*, %



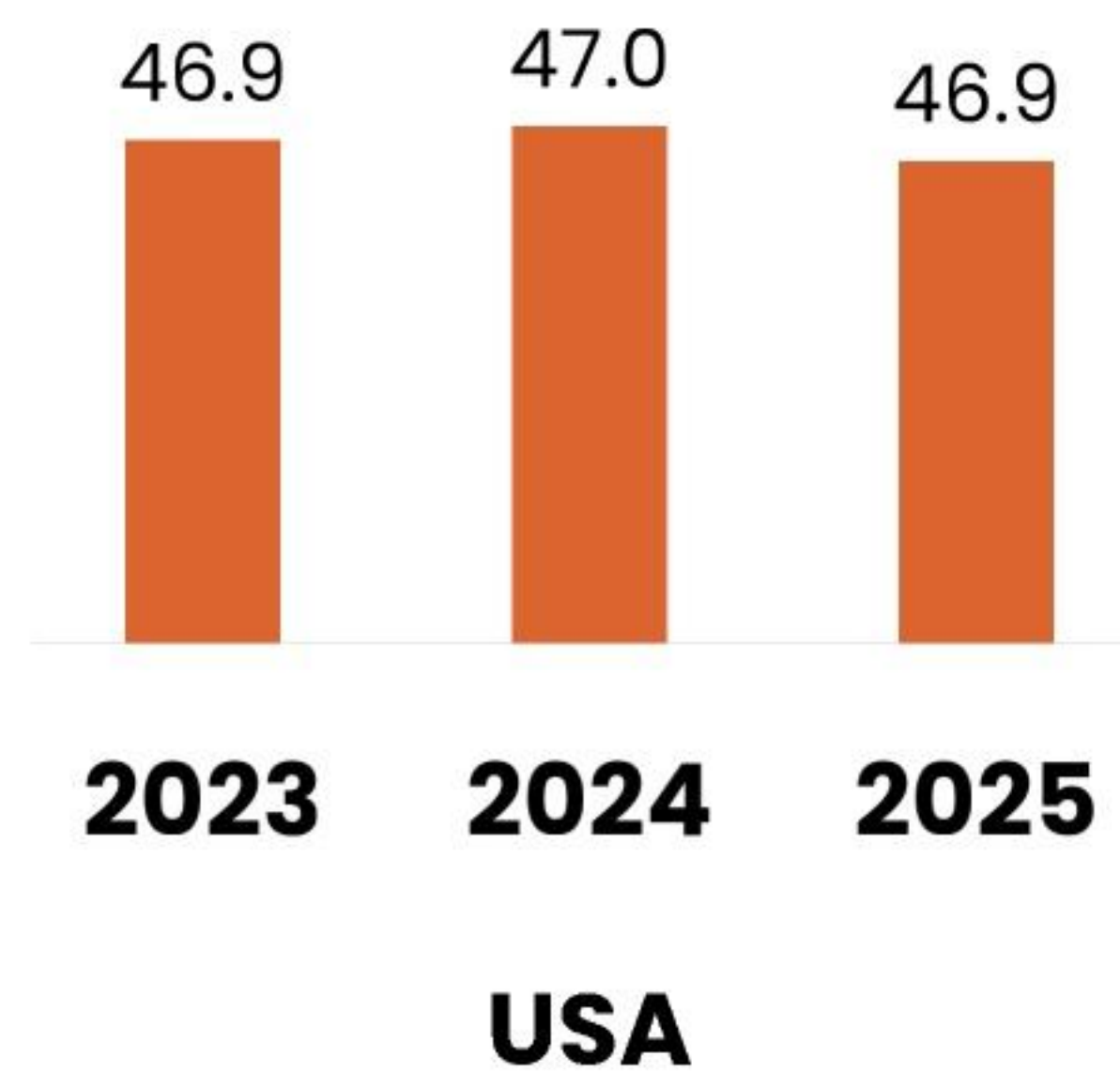


# Crude Protein\*, %





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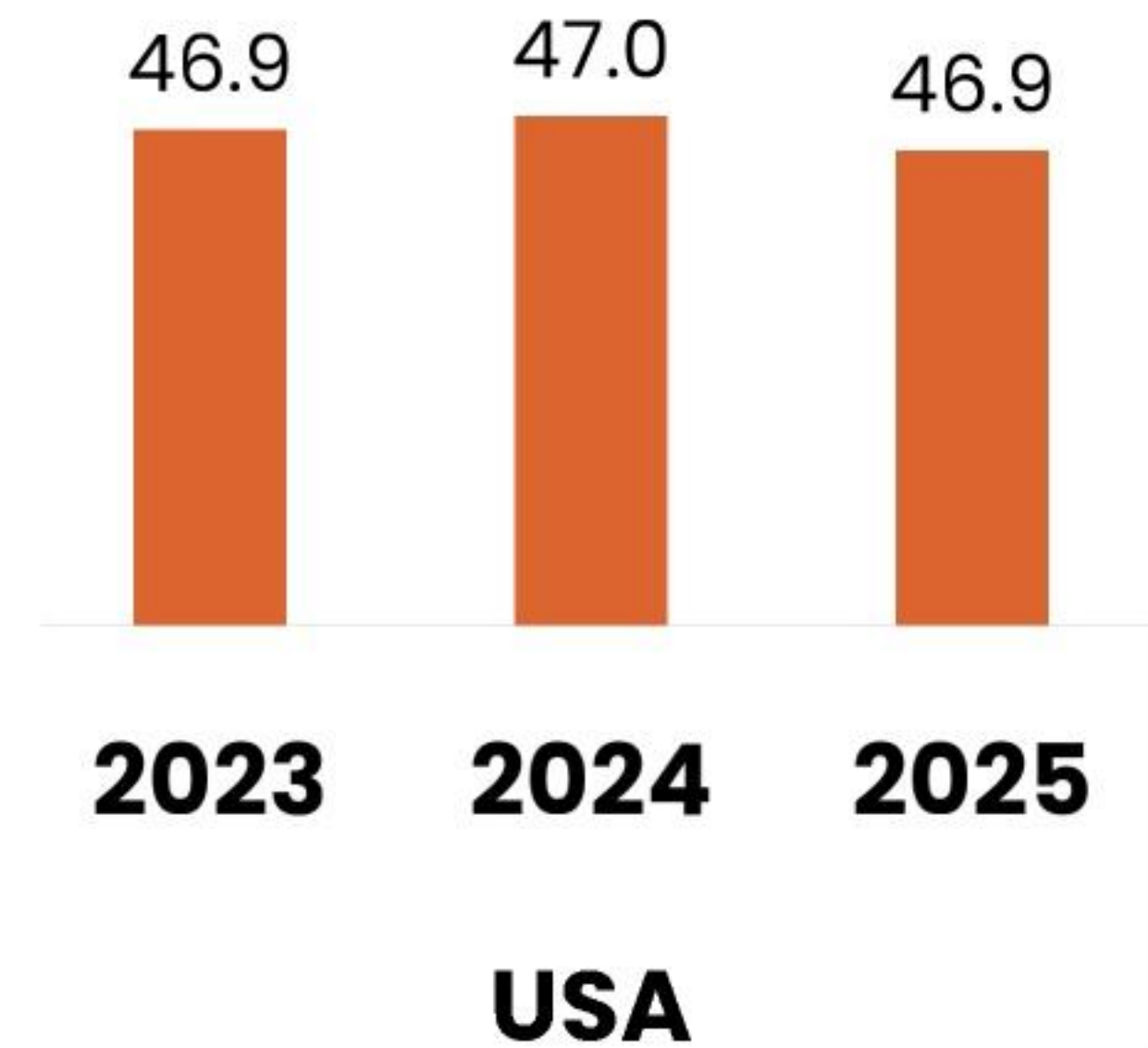


# Crude Protein\*, %



The average protein level of the 2024 crop was 34.0%.

The highest average protein level since 2019, and similar to the average of the previous ten years.



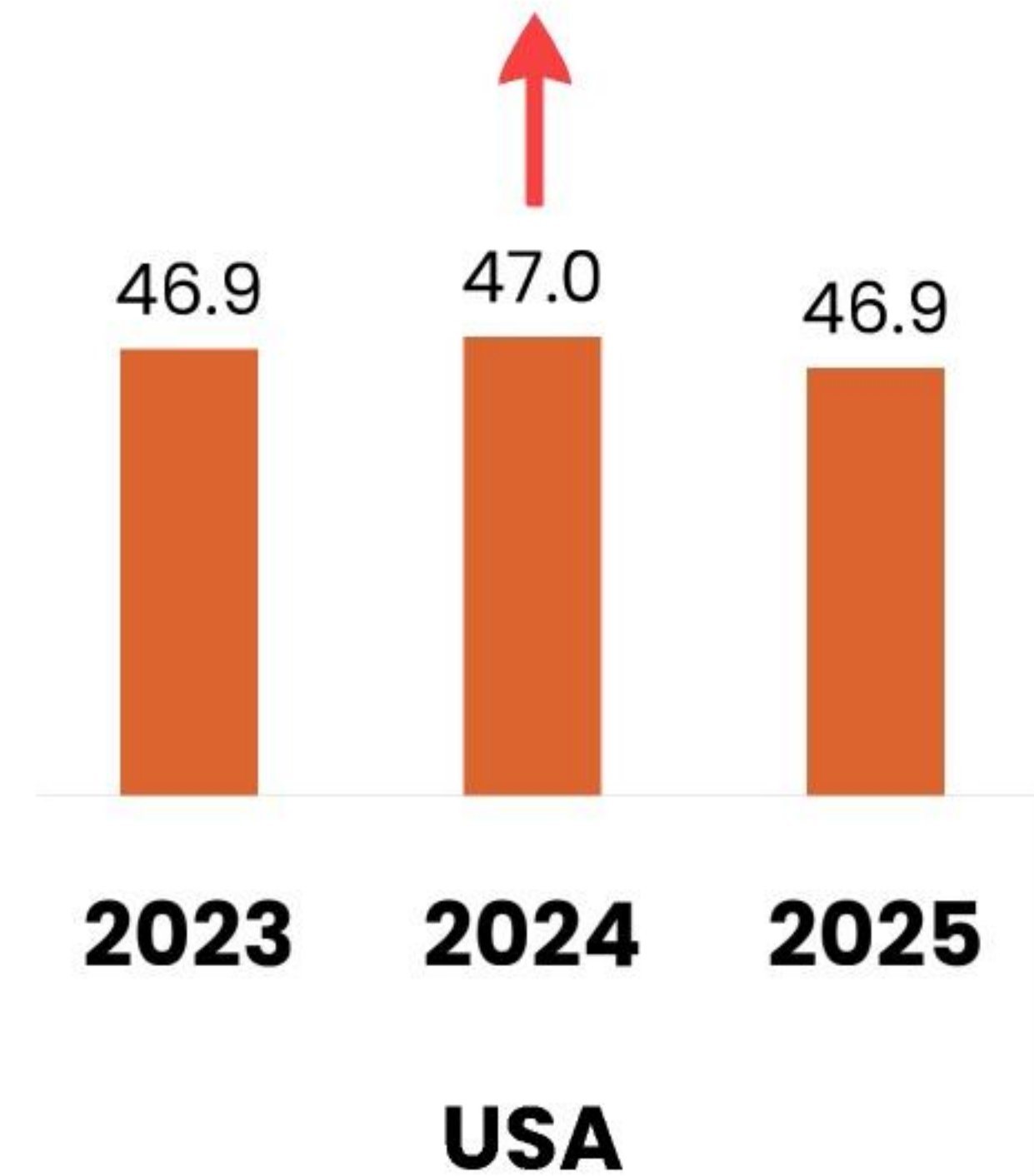


# Crude Protein\*, %



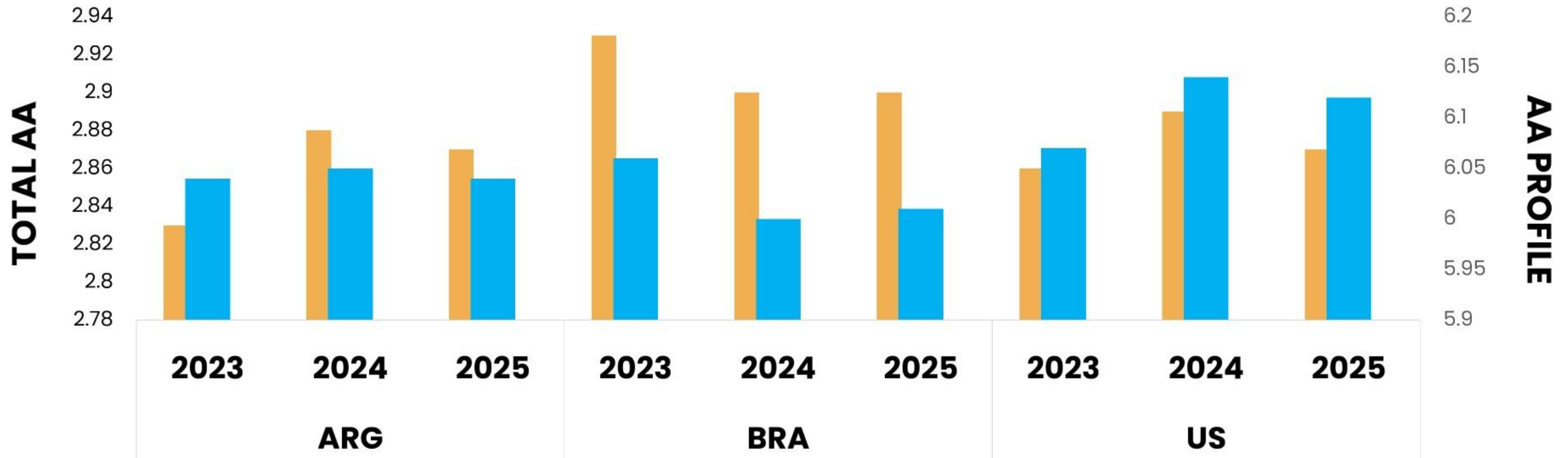
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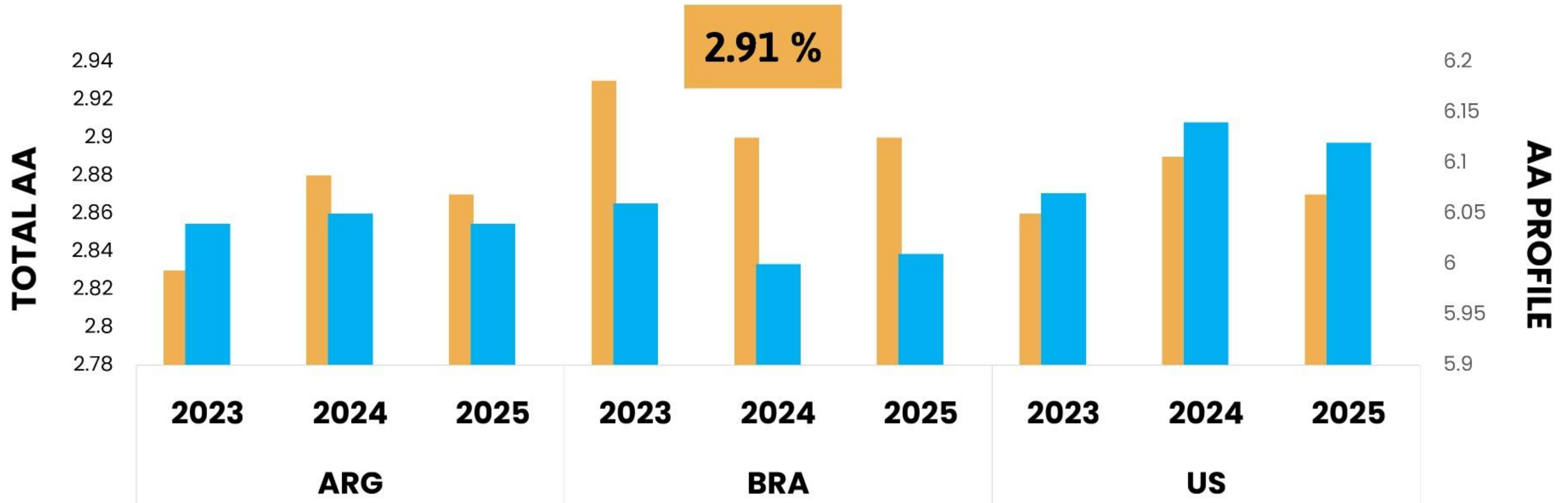


# Lysine\*



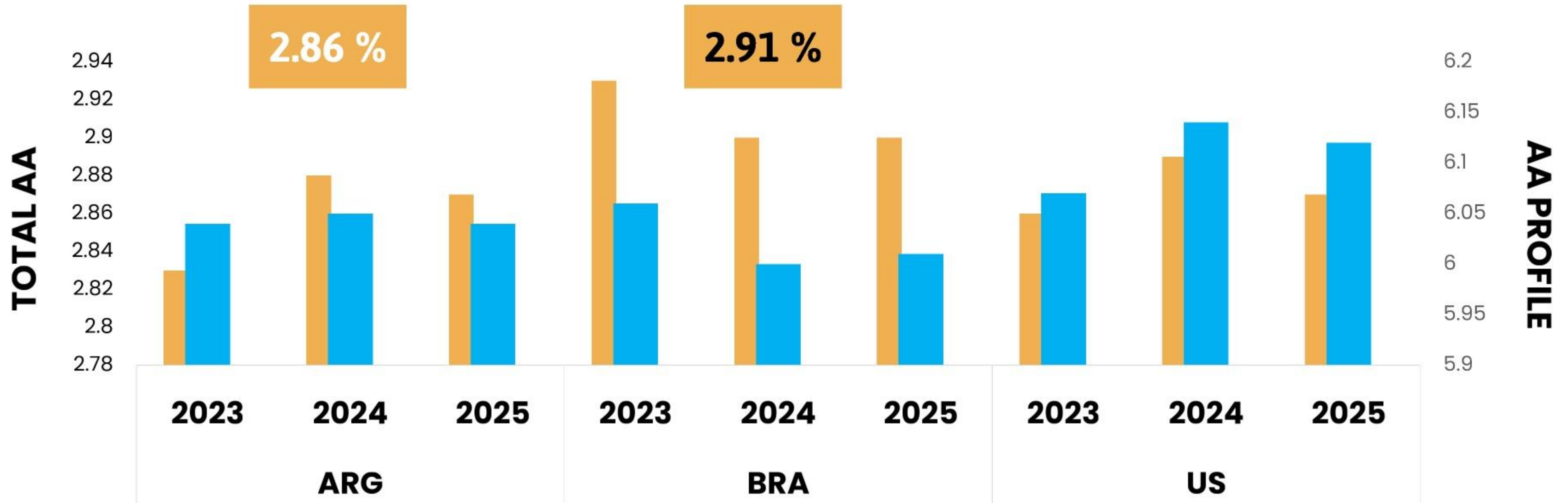


# Lysine\*



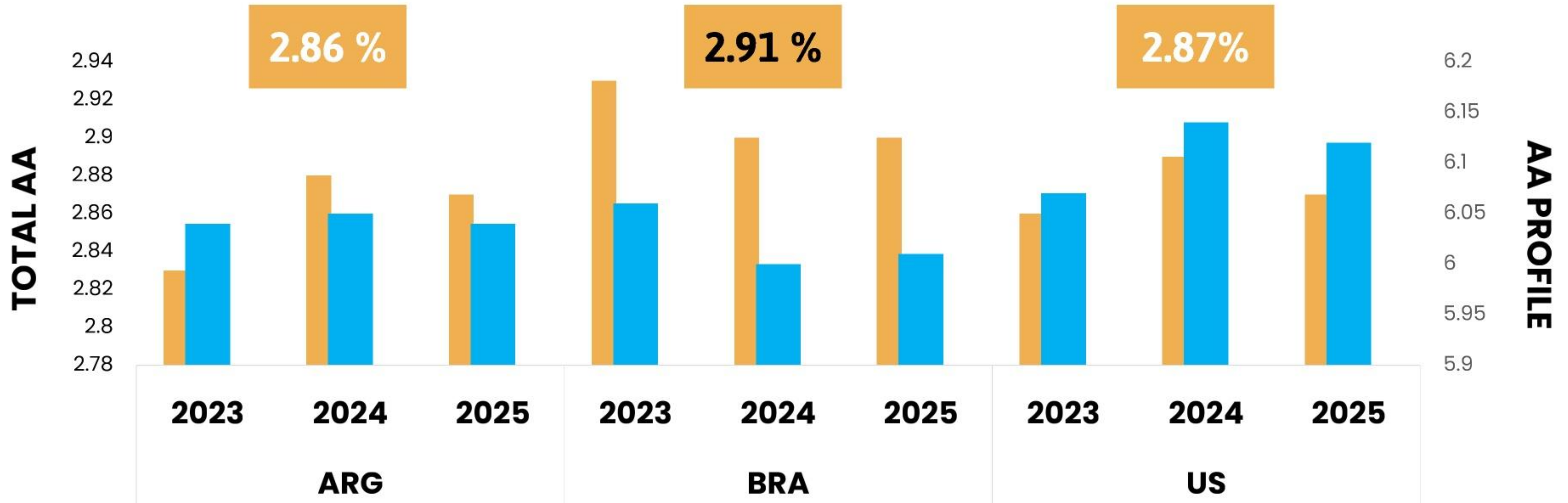


# Lysine\*



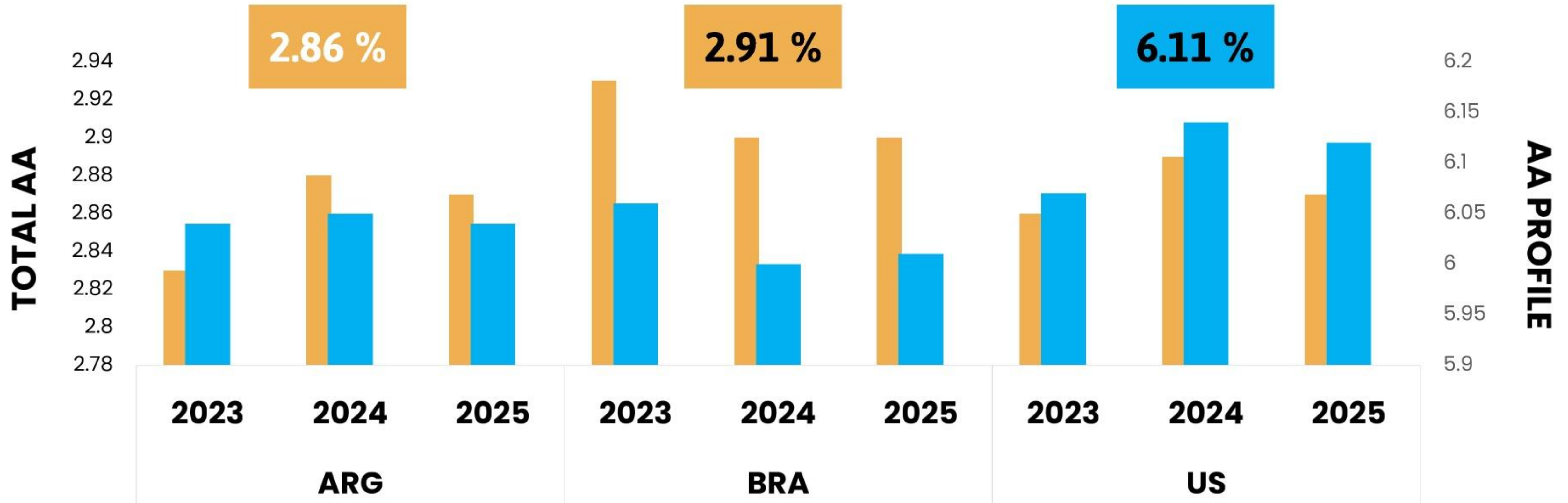


# Lysine\*



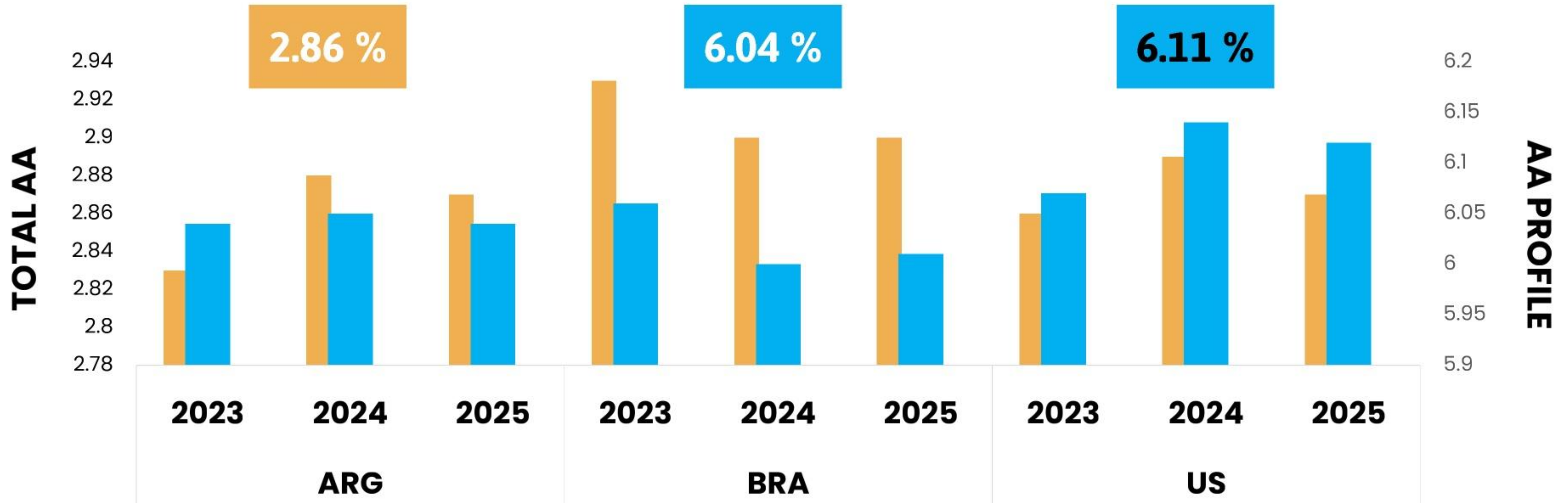


# Lysine\*



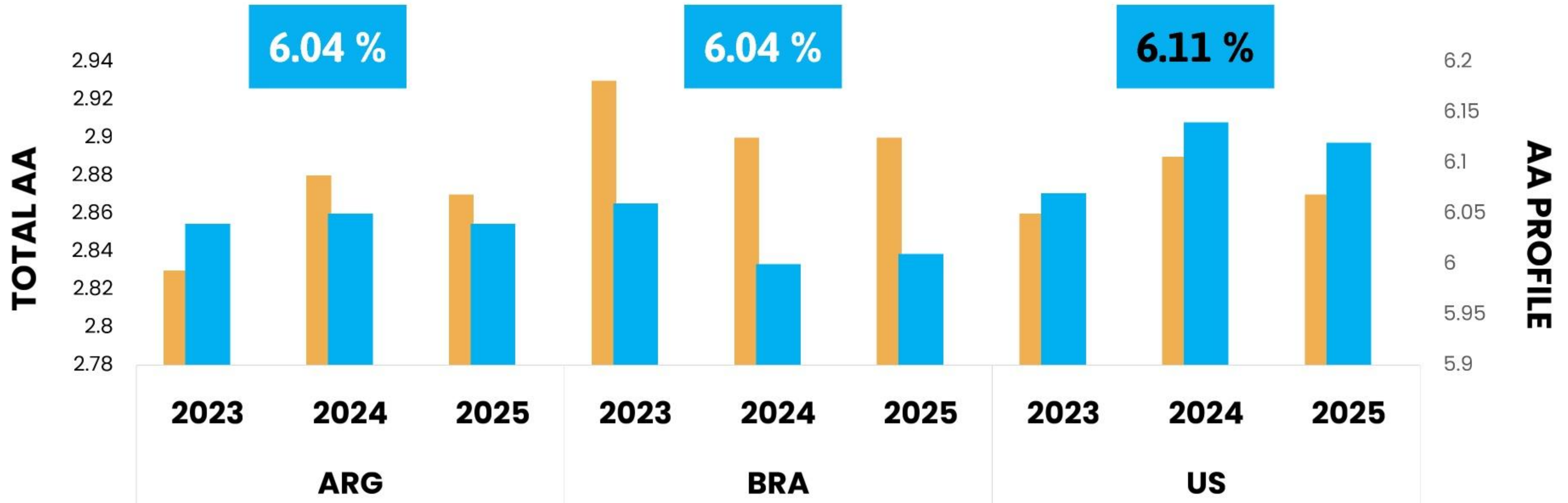


# Lysine\*



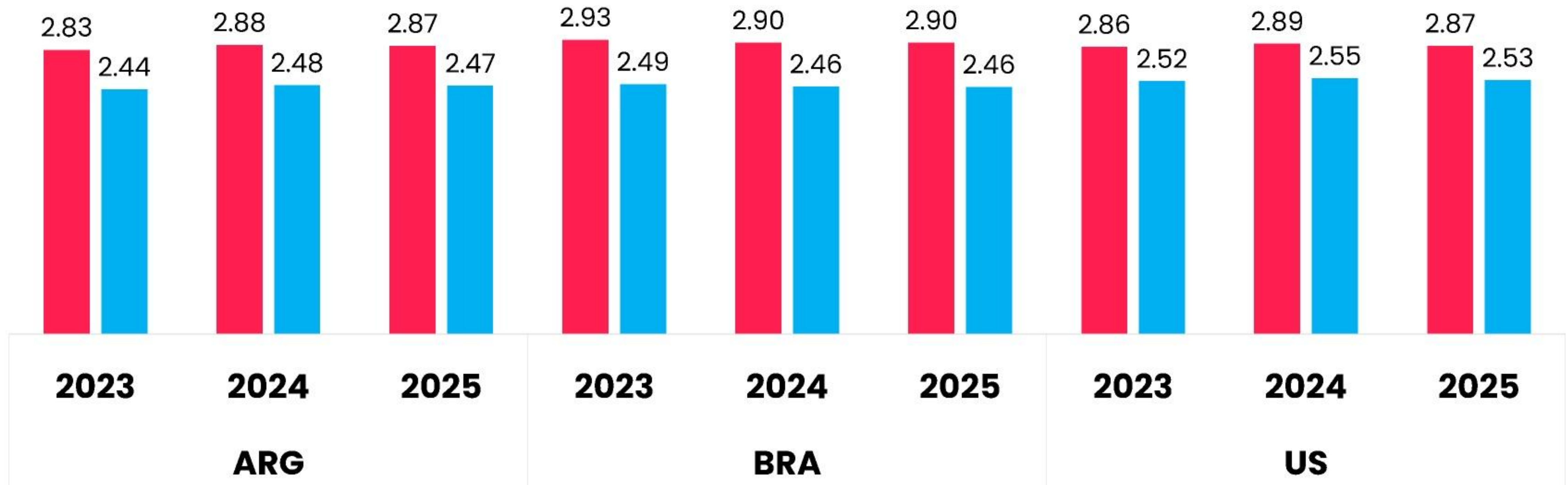


# Lysine\*





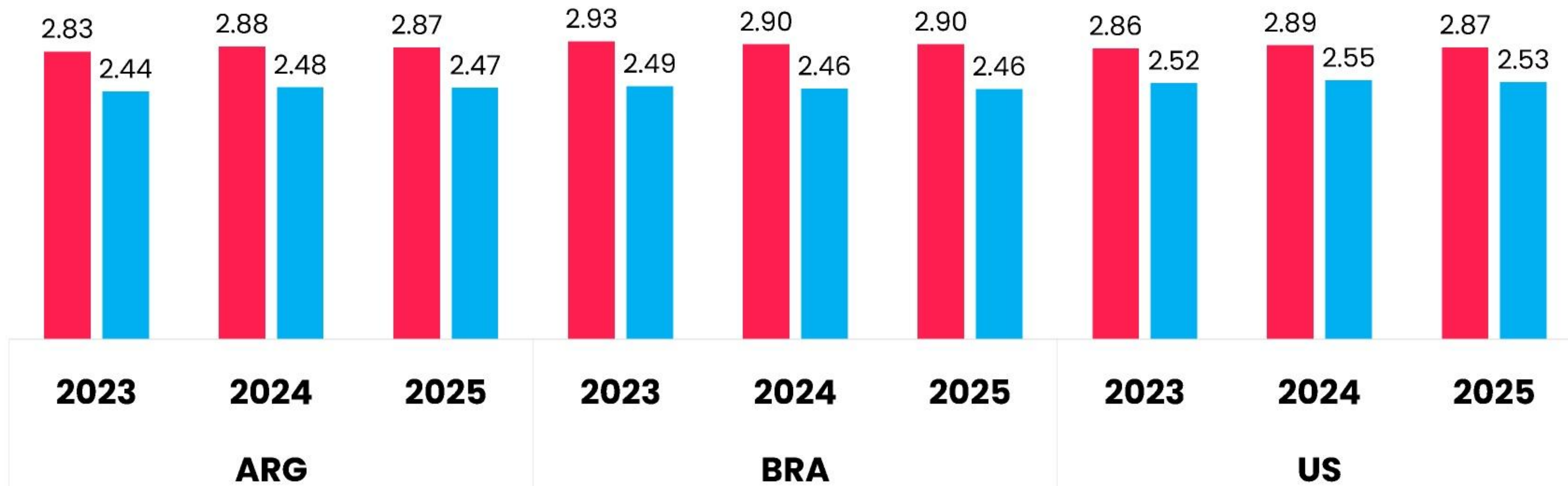
# Total AA\* vs. Digestible AA





Lys

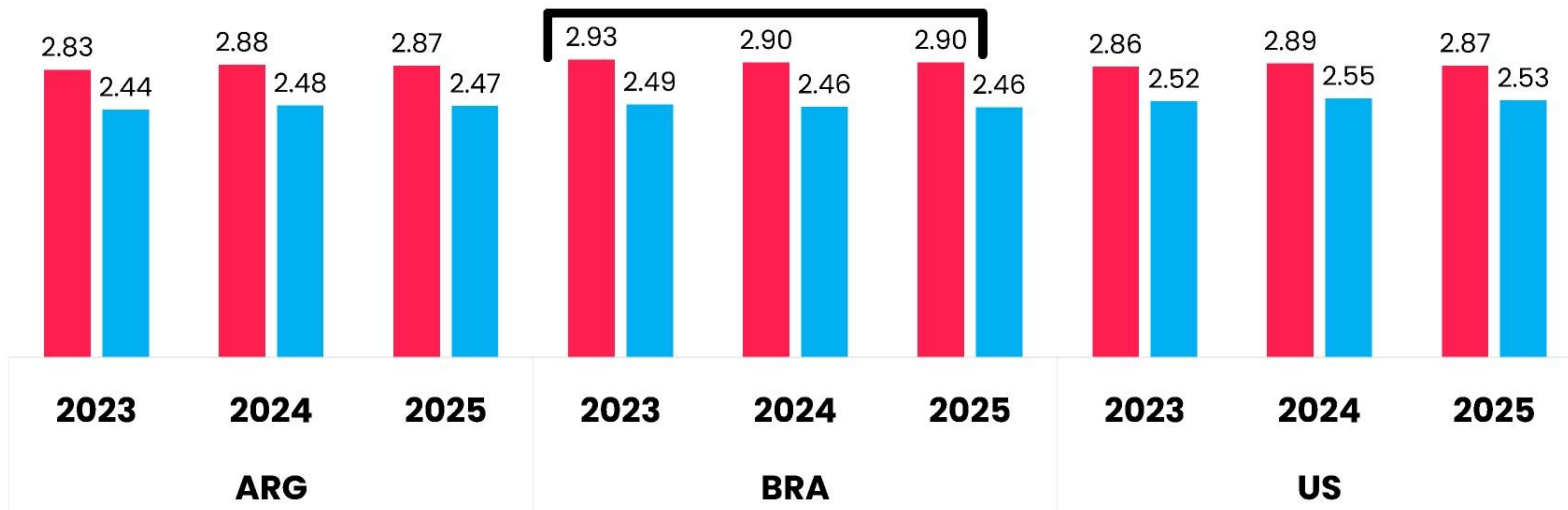
## Total AA\* vs. Digestible AA





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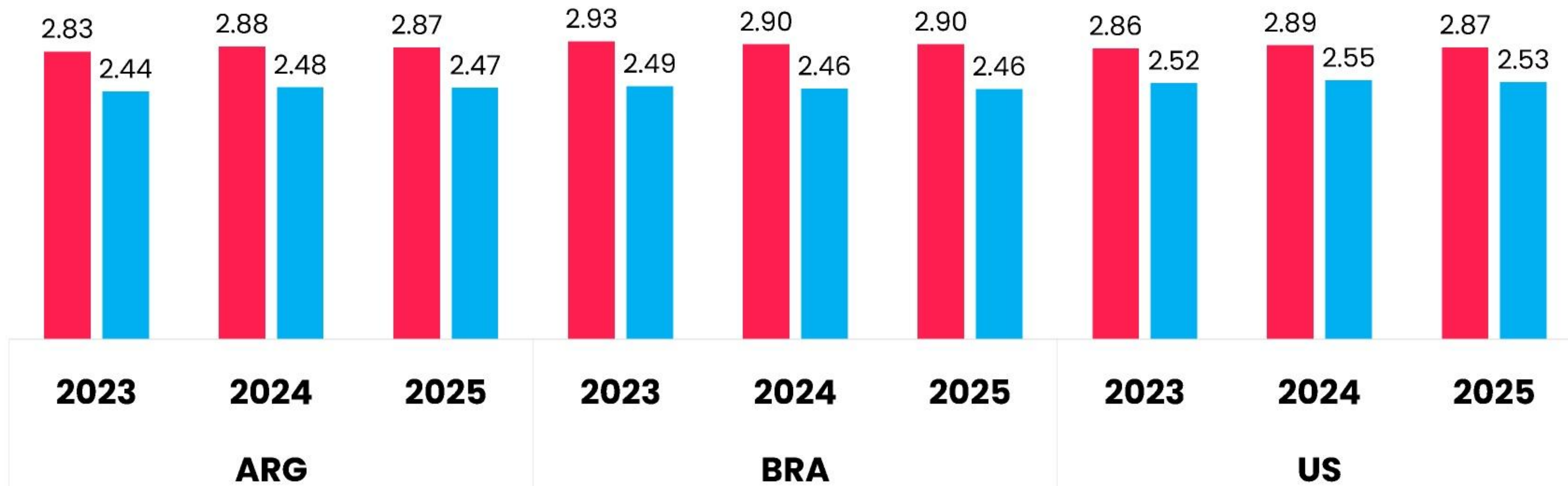
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Lys

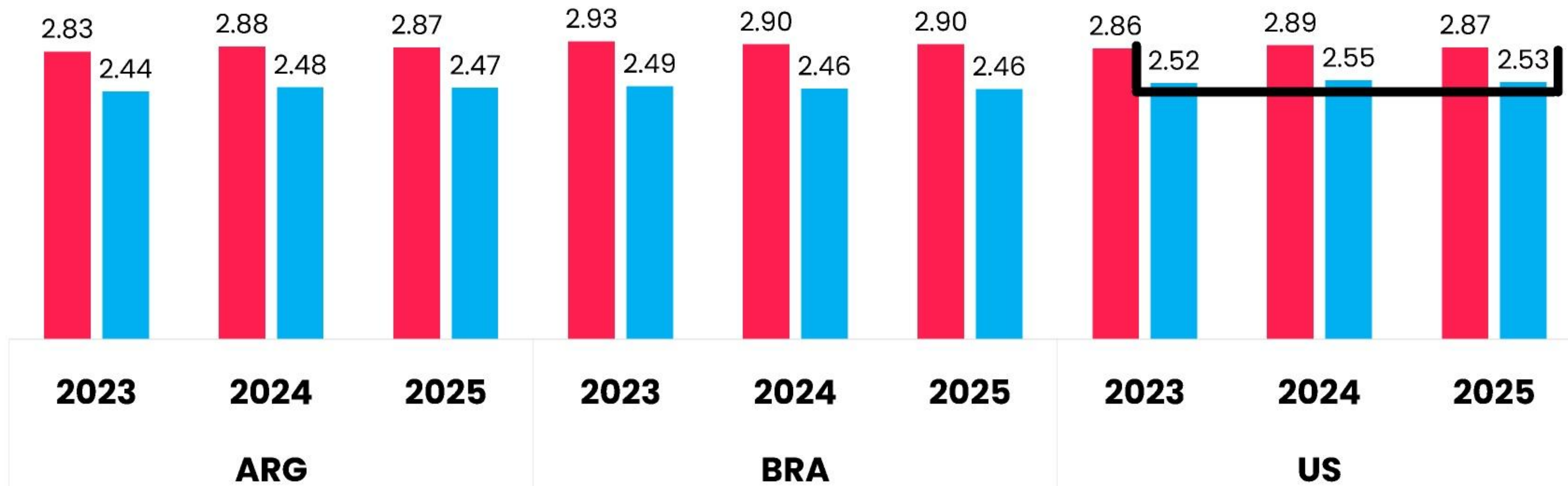
## Total AA\* vs. Digestible AA





Lys

## Total AA\* vs. Digestible AA





# Total AA\* vs. Digestible AA





Arg

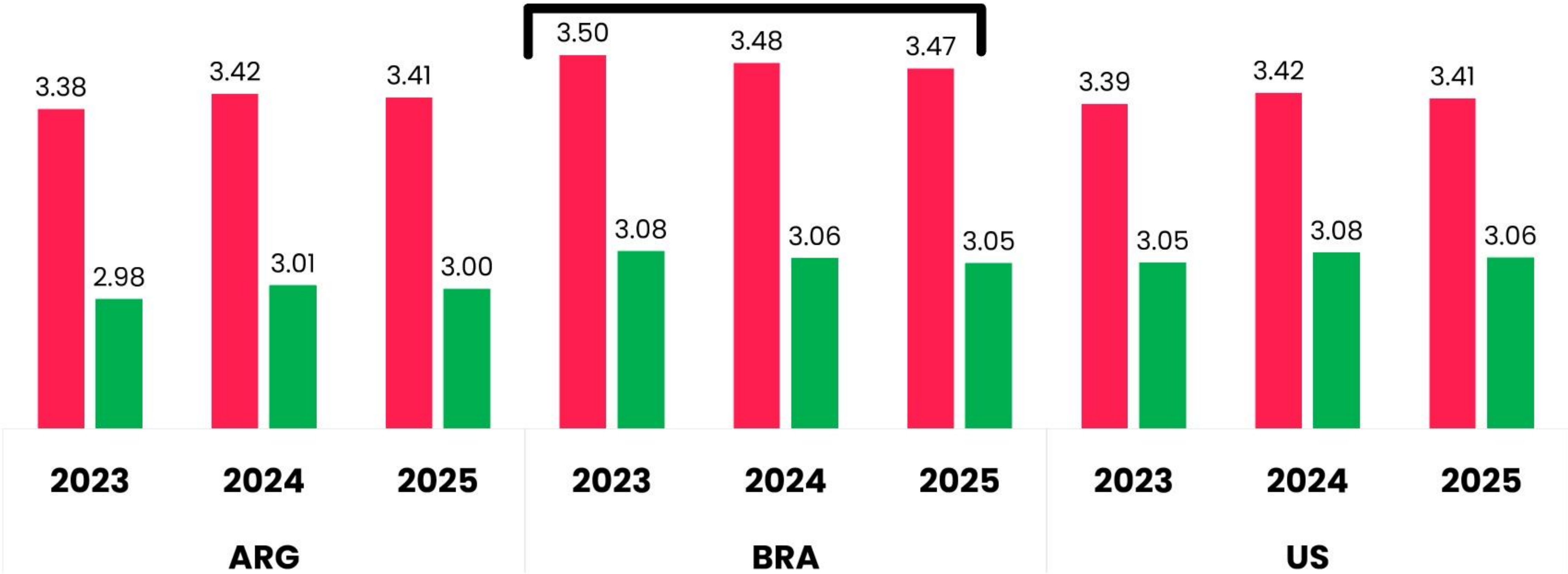
# Total AA\* vs. Digestible AA





Arg

# Total AA\* vs. Digestible AA





Arg

# Total AA\* vs. Digestible AA





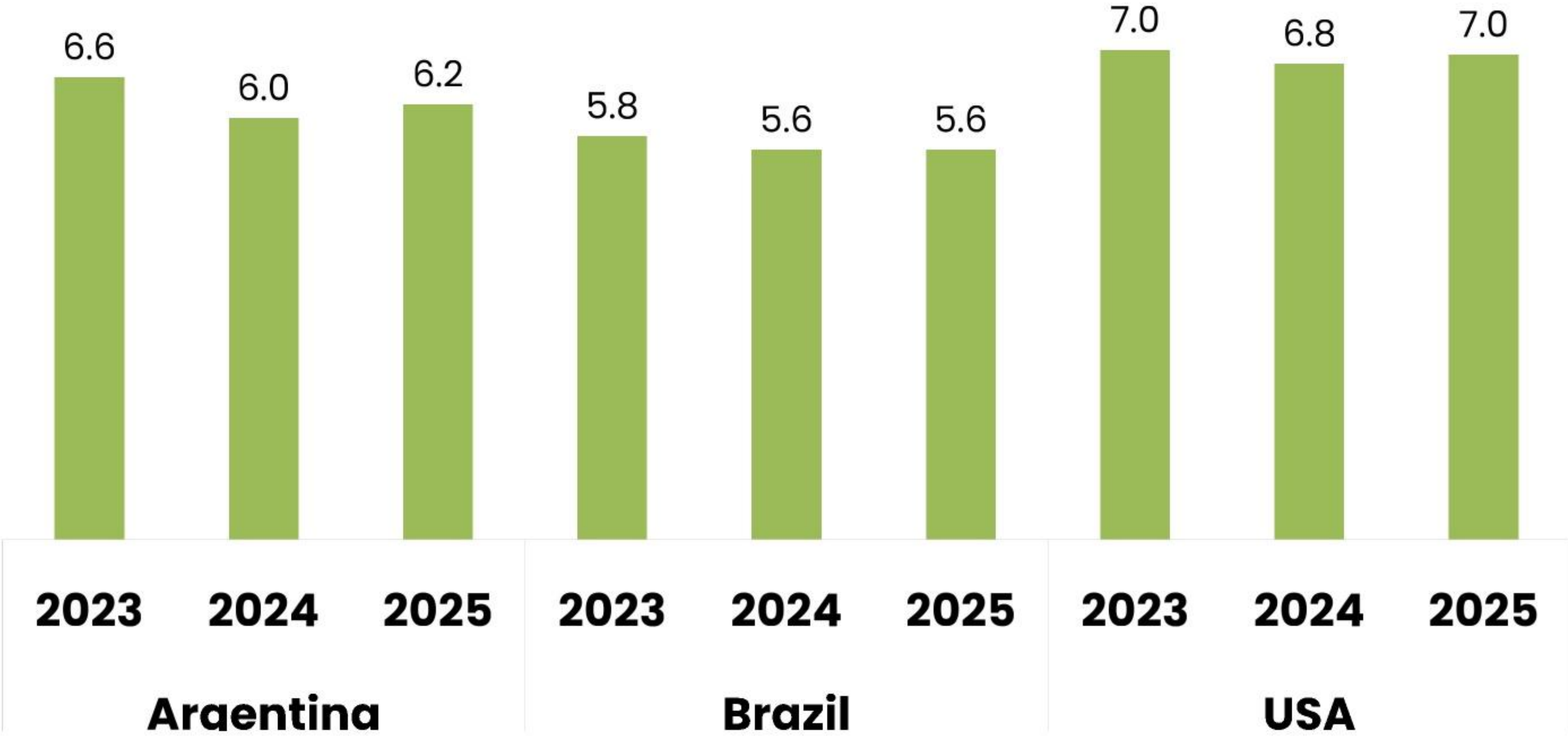
Arg

# Total AA\* vs. Digestible AA



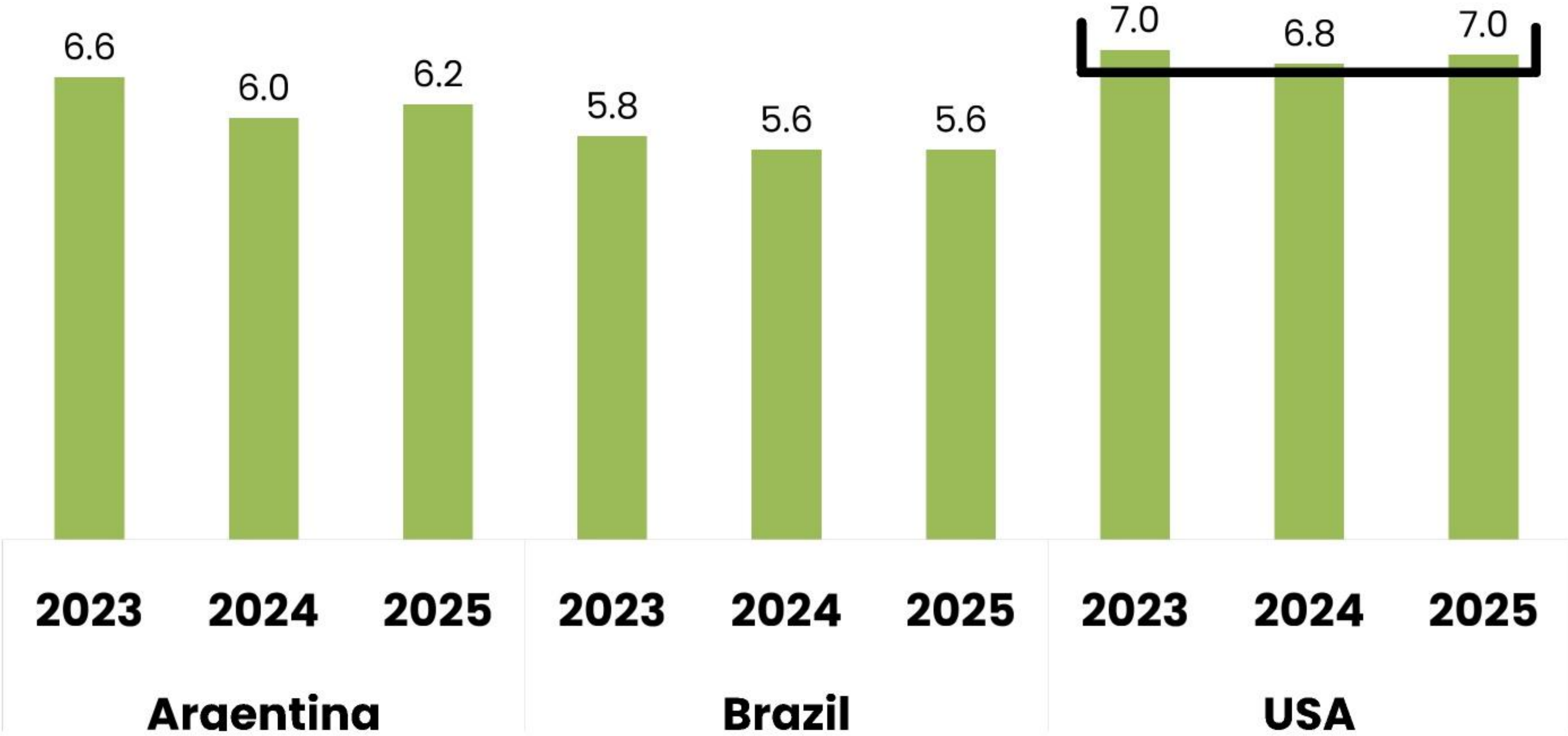


# Sucrose\*, %



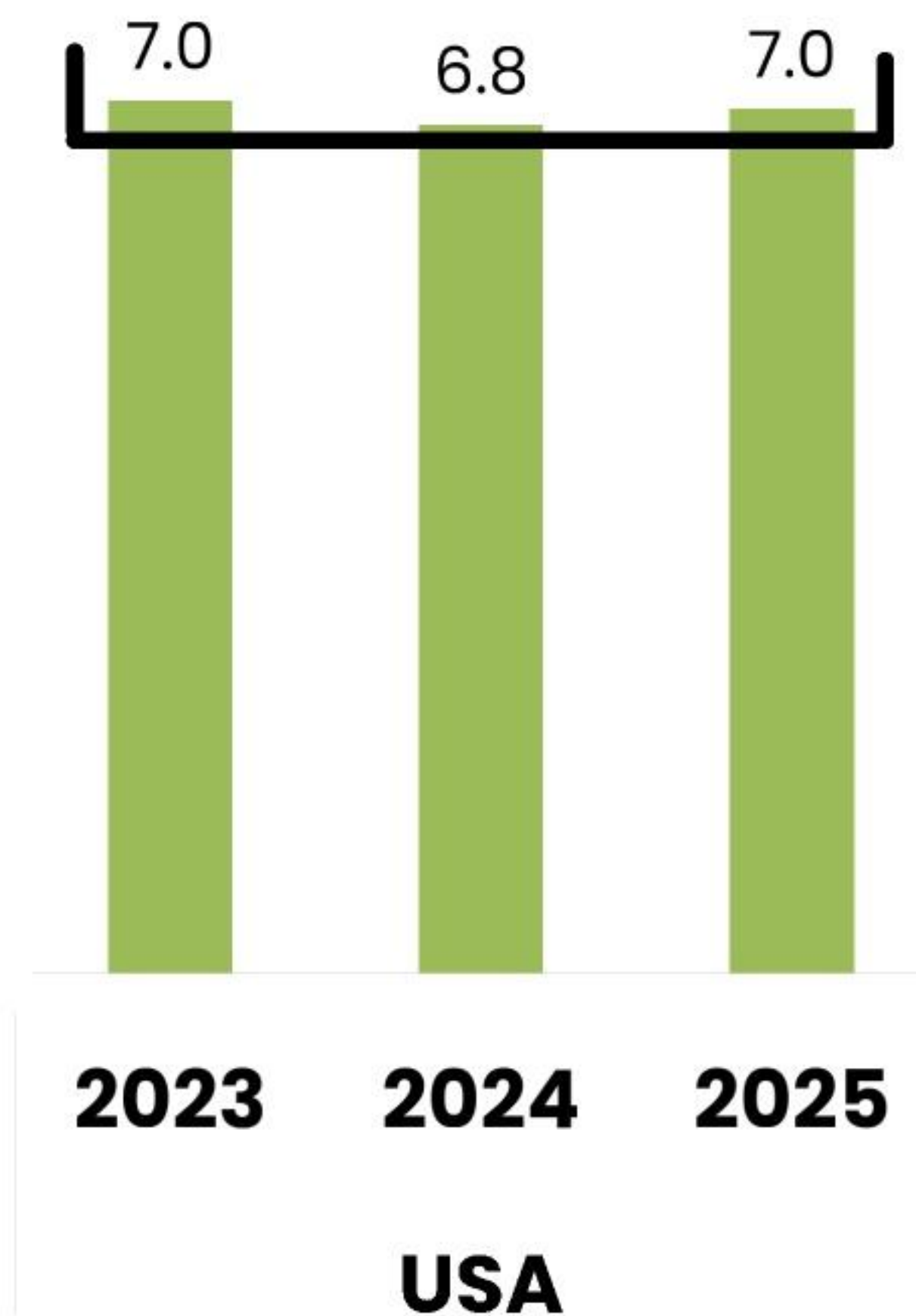


# Sucrose\*, %





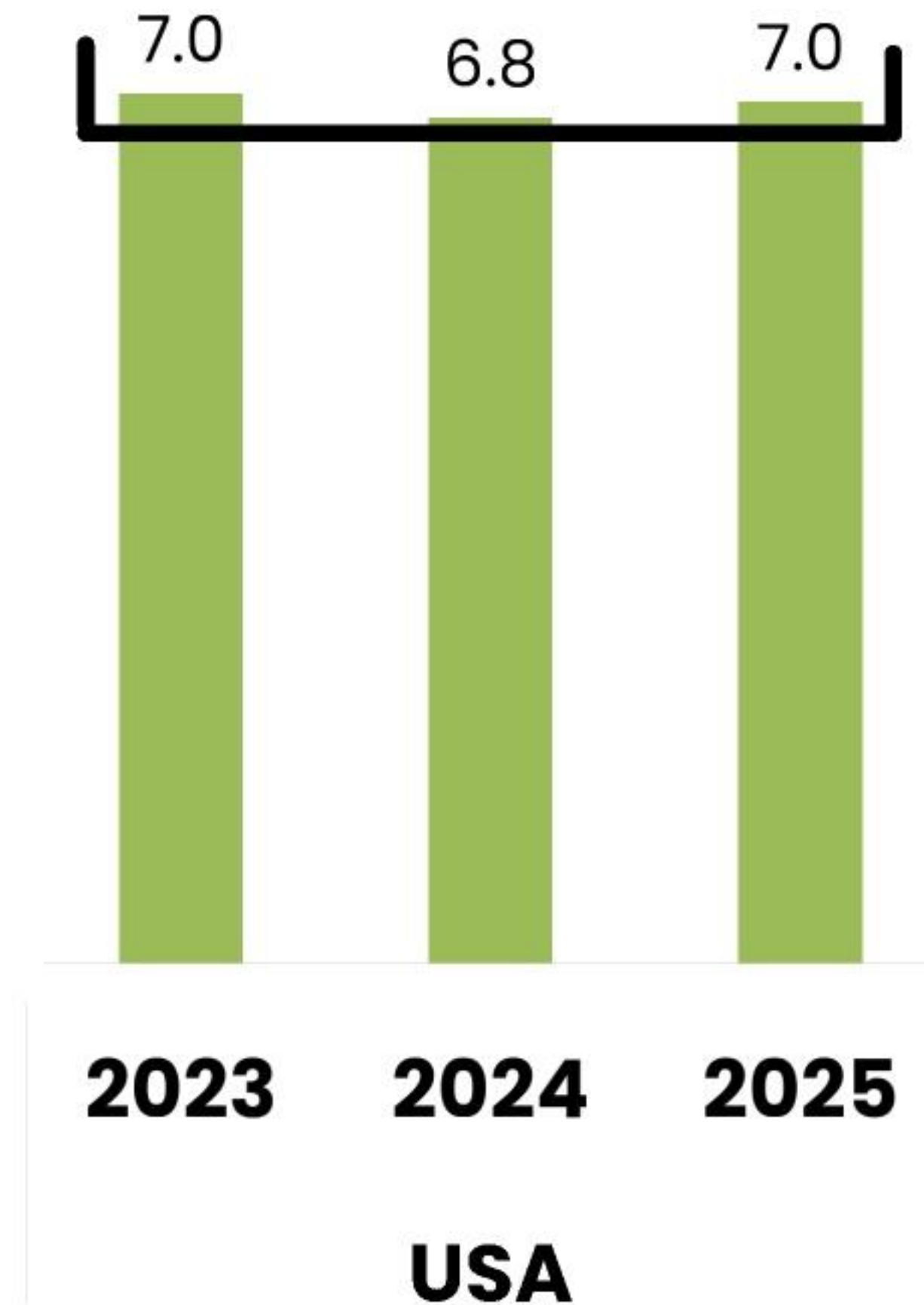
# Sucrose\*, %





# Sucrose\*, %

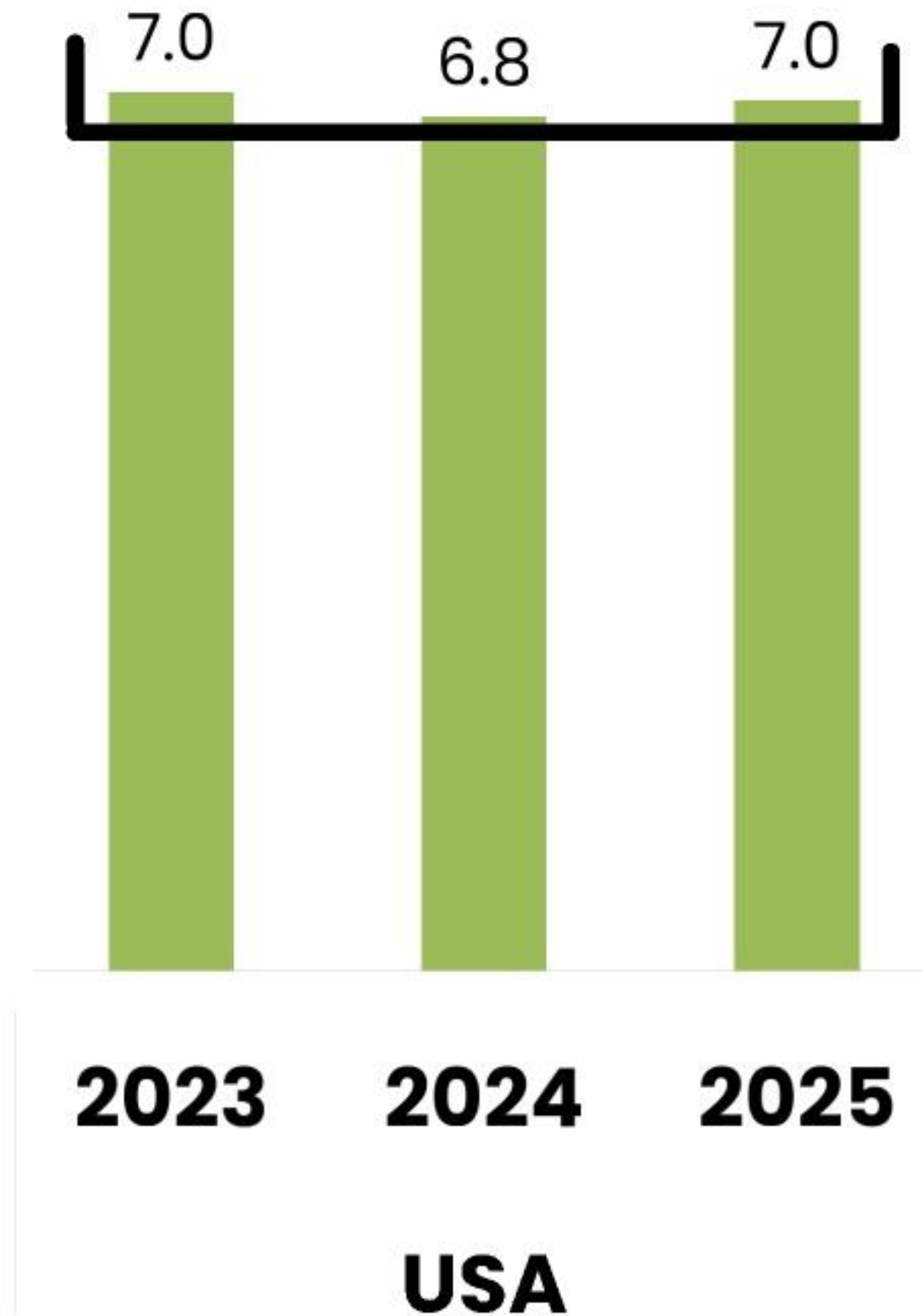
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(Stein et al., 2008).





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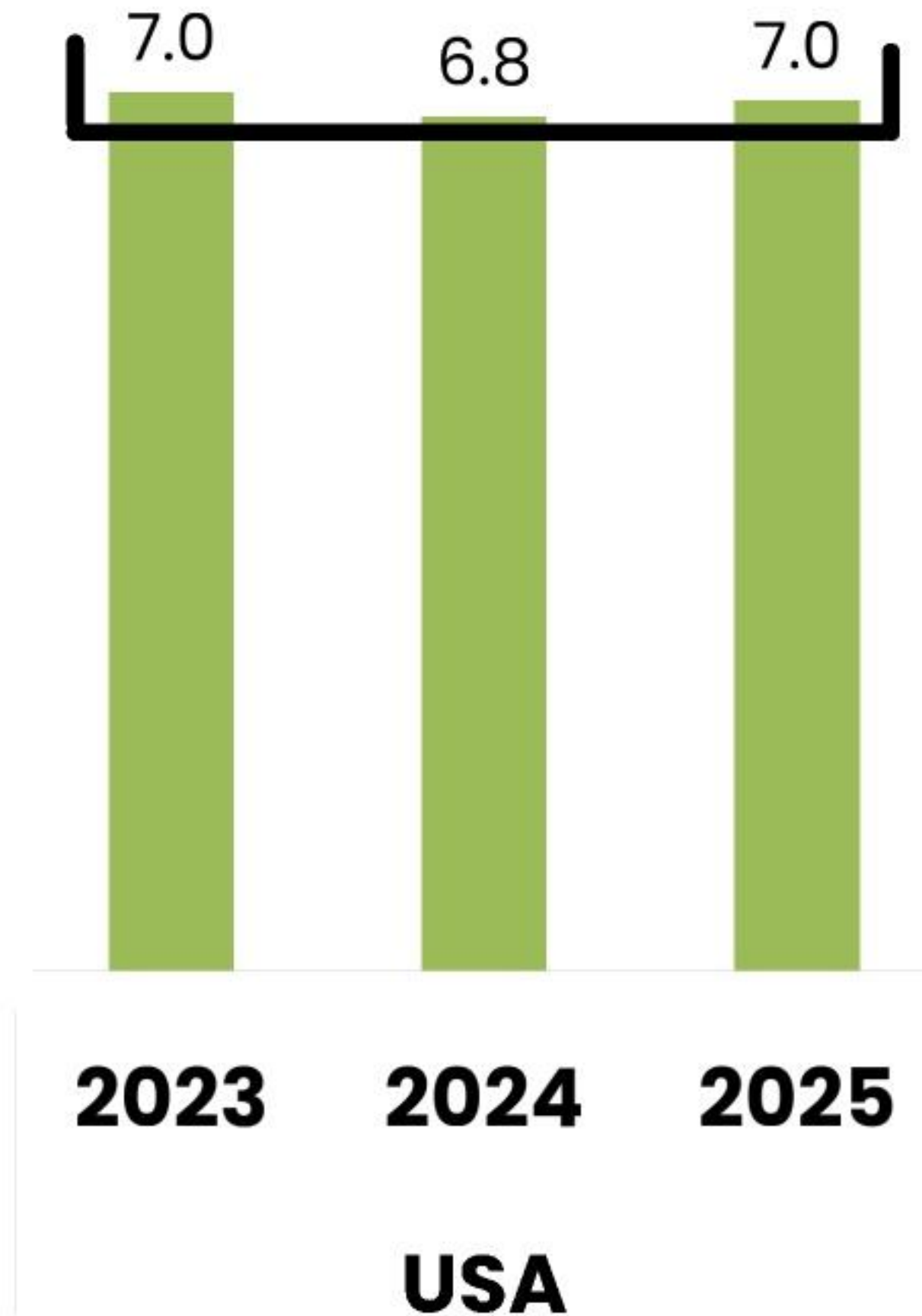


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It shows some trade-offs with protein, expressing higher concentrations where protein is lower.





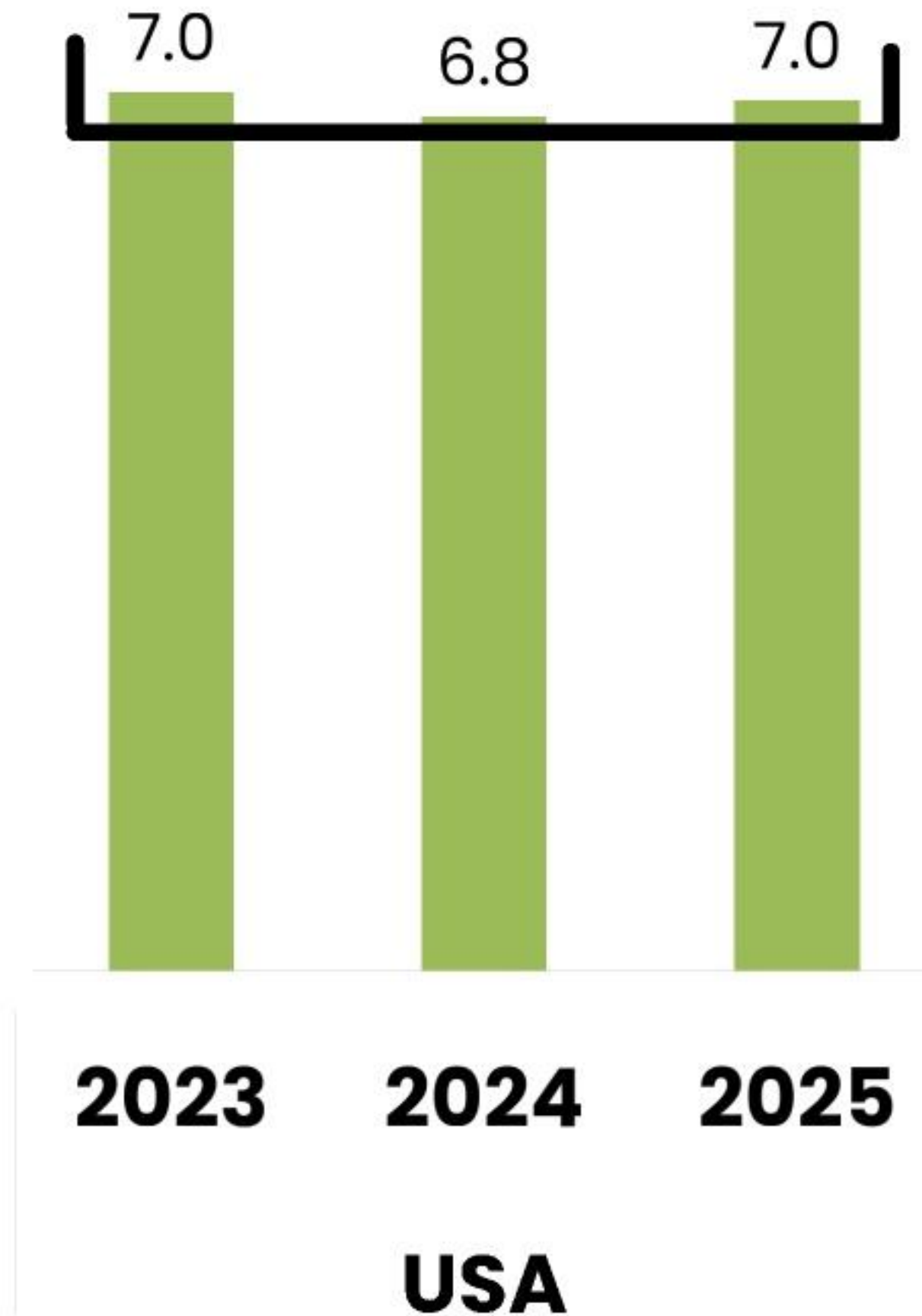
# Sucrose\*, %

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It shows some trade-offs with protein, expressing higher concentrations where protein is lower.

Average U.S. sucrose levels, at 4.3% in 2024 were lower than those in 2023 (5.4%)





# Energy Values\*, kcal/kg

| <br>NEg | ARG   |       |       | BRA   |       |       | US    |       |       |
|------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                                                                          | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
|                                                                                          | 2,146 | 2,182 | 2,154 | 2,156 | 2,165 | 2,150 | 2,187 | 2,181 | 2,198 |

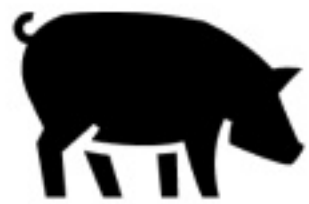


# Energy Values\*, kcal/kg

| <br>NEg | ARG   |       |       | BRA   |       |       | US    |       |       |
|------------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                                                                          | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
|                                                                                          | 2,146 | 2,182 | 2,154 | 2,156 | 2,165 | 2,150 | 2,187 | 2,181 | 2,198 |



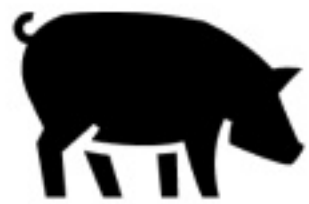
# Energy Values\*, kcal/kg

|  | ARG   |       |       | BRA   |       |       | US    |       |       |
|-----------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                                                                   | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| <b>NEg</b>                                                                        | 2,146 | 2,182 | 2,154 | 2,156 | 2,165 | 2,150 | 2,187 | 2,181 | 2,198 |

|  | ARG   |       |       | BRA   |       |       | US    |       |       |
|-------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                                                                     | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| <b>AMEn</b>                                                                         | 2,345 | 2,355 | 2,353 | 2,382 | 2,380 | 2,370 | 2,377 | 2,349 | 2,367 |



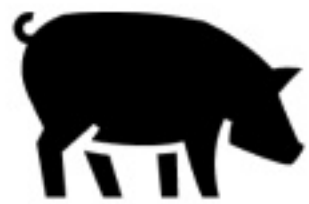
# Energy Values\*, kcal/kg

|  | ARG   |       |       | BRA   |       |       | US    |       |       |
|-----------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                                                                   | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| <b>NEg</b>                                                                        | 2,146 | 2,182 | 2,154 | 2,156 | 2,165 | 2,150 | 2,187 | 2,181 | 2,198 |

|  | ARG   |       |       | BRA   |       |       | US    |       |       |
|-------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                                                                     | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| <b>AMEn</b>                                                                         | 2,345 | 2,355 | 2,353 | 2,382 | 2,380 | 2,370 | 2,377 | 2,349 | 2,367 |



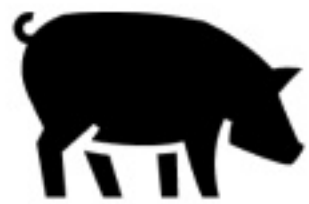
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|  | ARG   |       |       | BRA   |       |       | US    |       |       |
|-----------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                                                                   | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| <b>NEg</b>                                                                        | 2,146 | 2,182 | 2,154 | 2,156 | 2,165 | 2,150 | 2,187 | 2,181 | 2,198 |

|  | ARG   |       |       | BRA   |       |       | US    |       |       |
|-------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                                                                     | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| <b>AMEn</b>                                                                         | 2,345 | 2,355 | 2,353 | 2,382 | 2,380 | 2,370 | 2,377 | 2,349 | 2,367 |



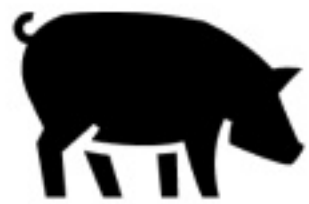
# Energy Values\*, kcal/kg

|  | ARG   |       |       | BRA   |       |       | US    |       |       |
|-----------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                                                                   | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| <b>NEg</b>                                                                        | 2,146 | 2,182 | 2,154 | 2,156 | 2,165 | 2,150 | 2,187 | 2,181 | 2,198 |

|  | ARG   |       |       | BRA   |       |       | US    |       |       |
|-------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                                                                     | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| <b>AMEn</b>                                                                         | 2,345 | 2,355 | 2,353 | 2,382 | 2,380 | 2,370 | 2,377 | 2,349 | 2,367 |



# Energy Values\*, kcal/kg

|  | ARG   |       |       | BRA   |       |       | US    |       |       |
|-----------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                                                                   | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| <b>NEg</b>                                                                        | 2,146 | 2,182 | 2,154 | 2,156 | 2,165 | 2,150 | 2,187 | 2,181 | 2,198 |

|  | ARG   |       |       | BRA   |       |       | US    |       |       |
|-------------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                                                                                     | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| <b>AMEn</b>                                                                         | 2,345 | 2,355 | 2,353 | 2,382 | 2,380 | 2,370 | 2,377 | 2,349 | 2,367 |



# Productive Energy

Developed by the University of Arkansas since 2015.



Respiratory chambers



Dual energy x-ray absorptiometry



# Energy Values, kcal/kg

|      | ARG   |       |       | BRA   |       |       | US    |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|      | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| AMEn | 2,345 | 2,355 | 2,353 | 2,382 | 2,380 | 2,370 | 2,377 | 2,349 | 2,367 |
| PE   | 3,108 | 3,155 | 3,148 | 3,250 | 3,248 | 3,235 | 3,254 | 3,252 | 3,252 |



# Energy Values, kcal/kg

|      | ARG   |       |       | BRA   |       |       | US    |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|      | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| AMEn | 2,345 | 2,355 | 2,353 | 2,382 | 2,380 | 2,370 | 2,377 | 2,349 | 2,367 |
| PE   | 3,108 | 3,155 | 3,148 | 3,250 | 3,248 | 3,235 | 3,254 | 3,252 | 3,252 |



# Energy Values, kcal/kg

|      | ARG   |       |       | BRA   |       |       | US    |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|      | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| AMEn | 2,345 | 2,355 | 2,353 | 2,382 | 2,380 | 2,370 | 2,377 | 2,349 | 2,367 |
| PE   | 3,108 | 3,155 | 3,148 | 3,250 | 3,248 | 3,235 | 3,254 | 3,252 | 3,252 |



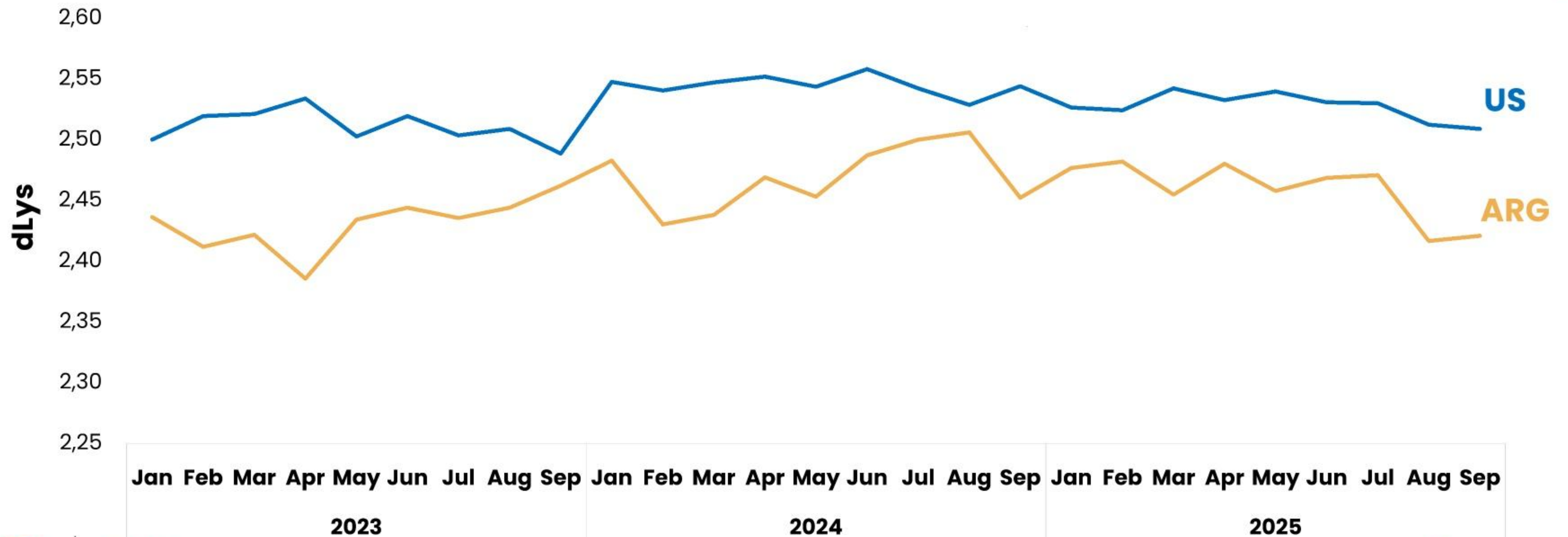
# Energy Values, kcal/kg

|      | ARG   |       |       | BRA   |       |       | US    |       |       |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|      | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  | 2023  | 2024  | 2025  |
| AMEn | 2,345 | 2,355 | 2,353 | 2,382 | 2,380 | 2,370 | 2,377 | 2,349 | 2,367 |
| PE   | 3,108 | 3,155 | 3,148 | 3,250 | 3,248 | 3,235 | 3,254 | 3,252 | 3,252 |





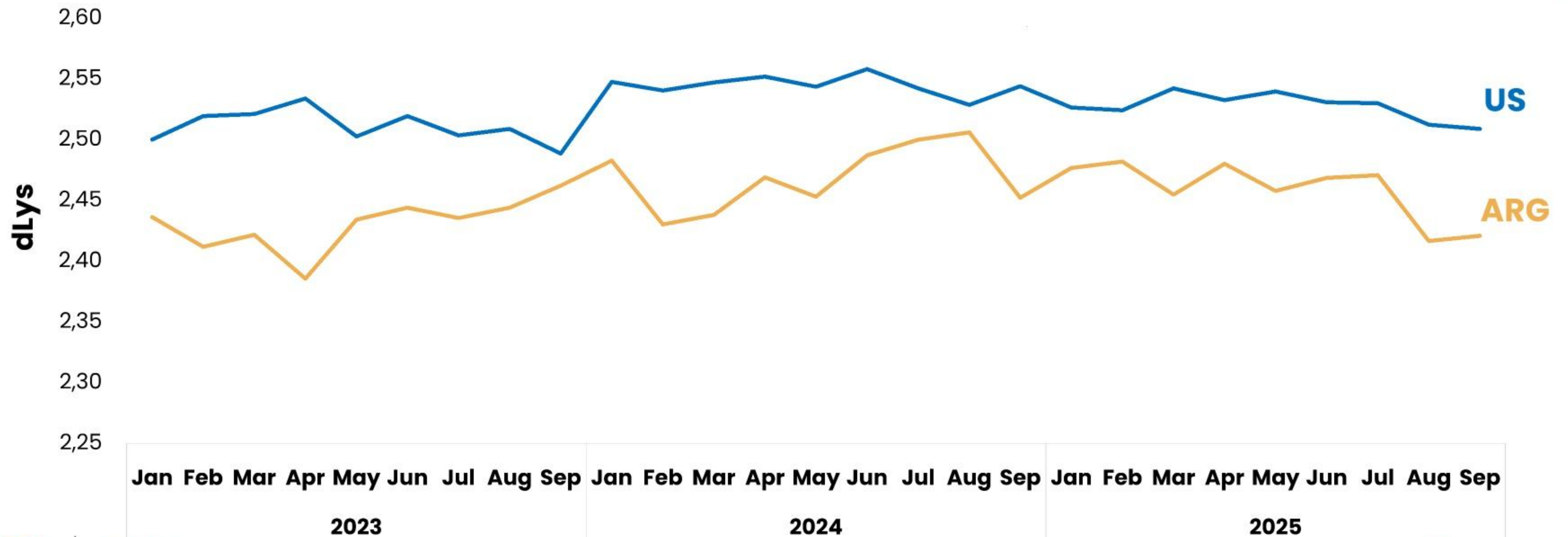
# Crude Protein Quality\*





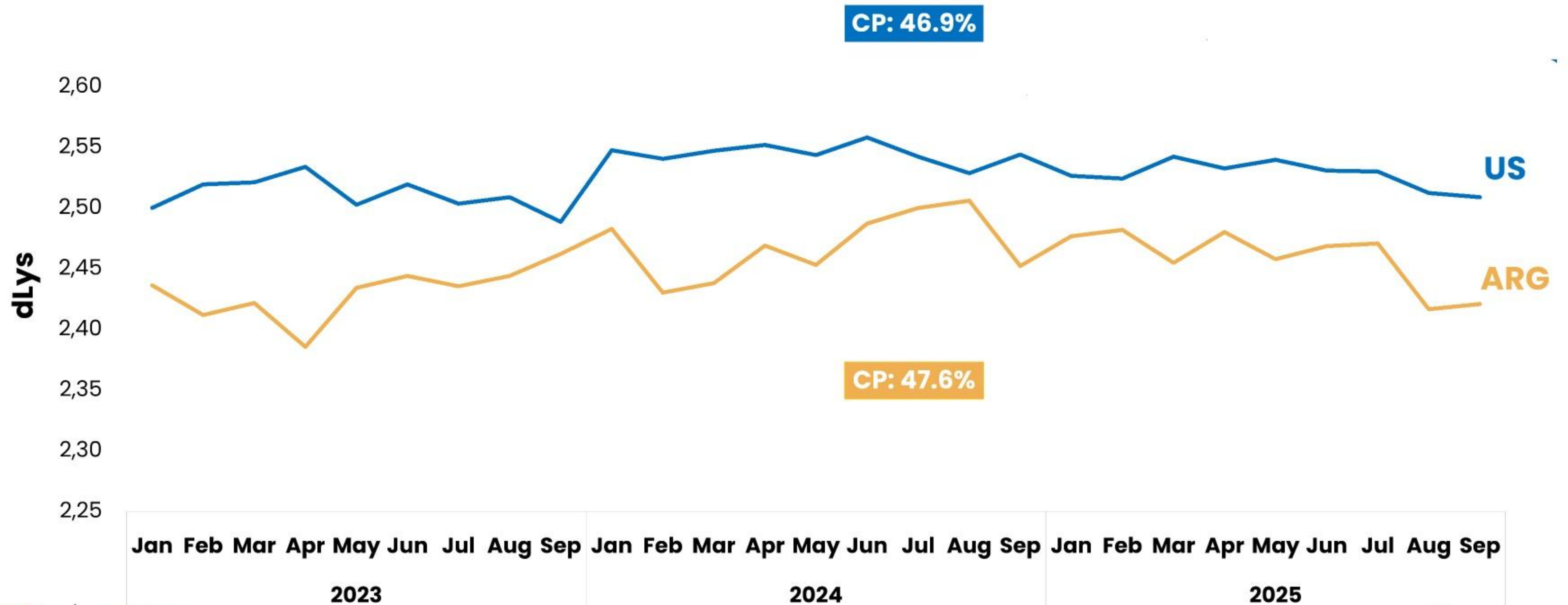
# Crude Protein Quality\*

CP: 46.9%



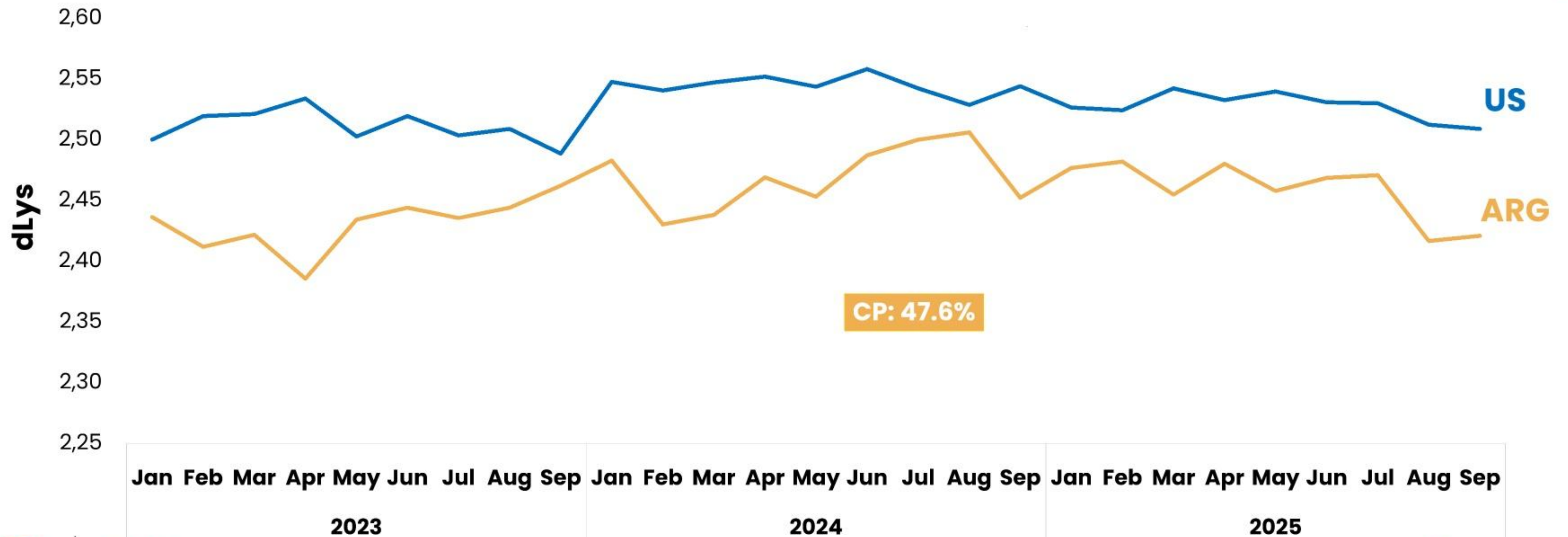


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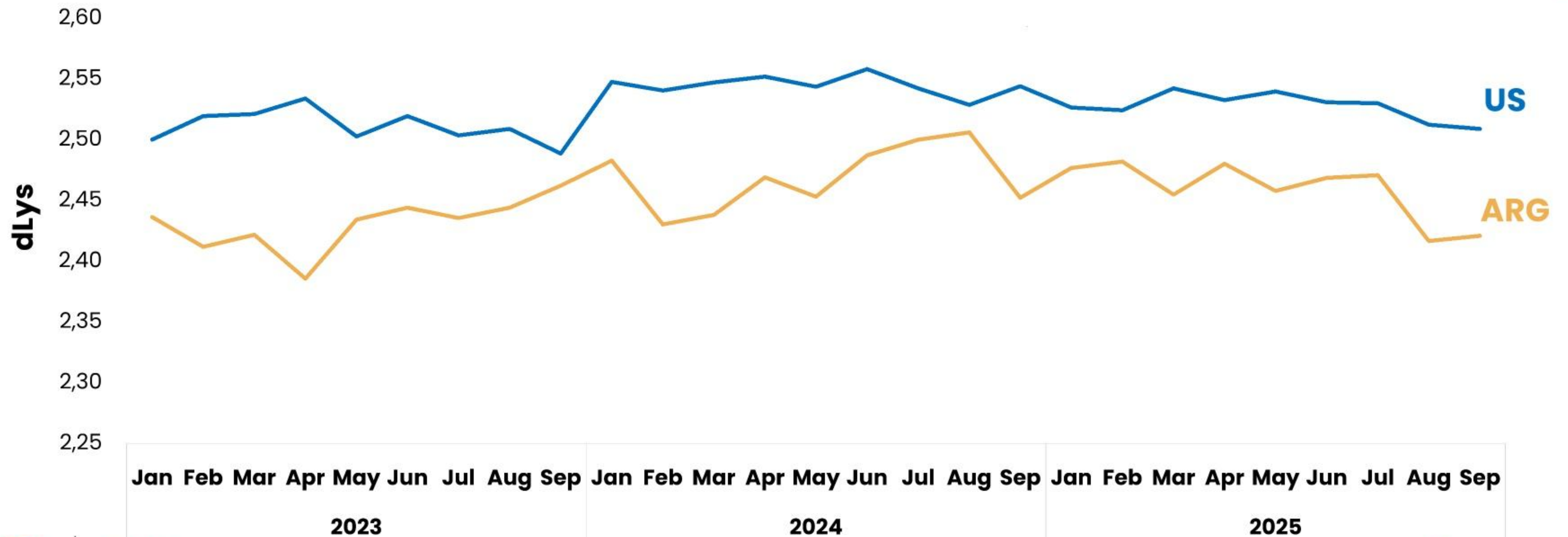


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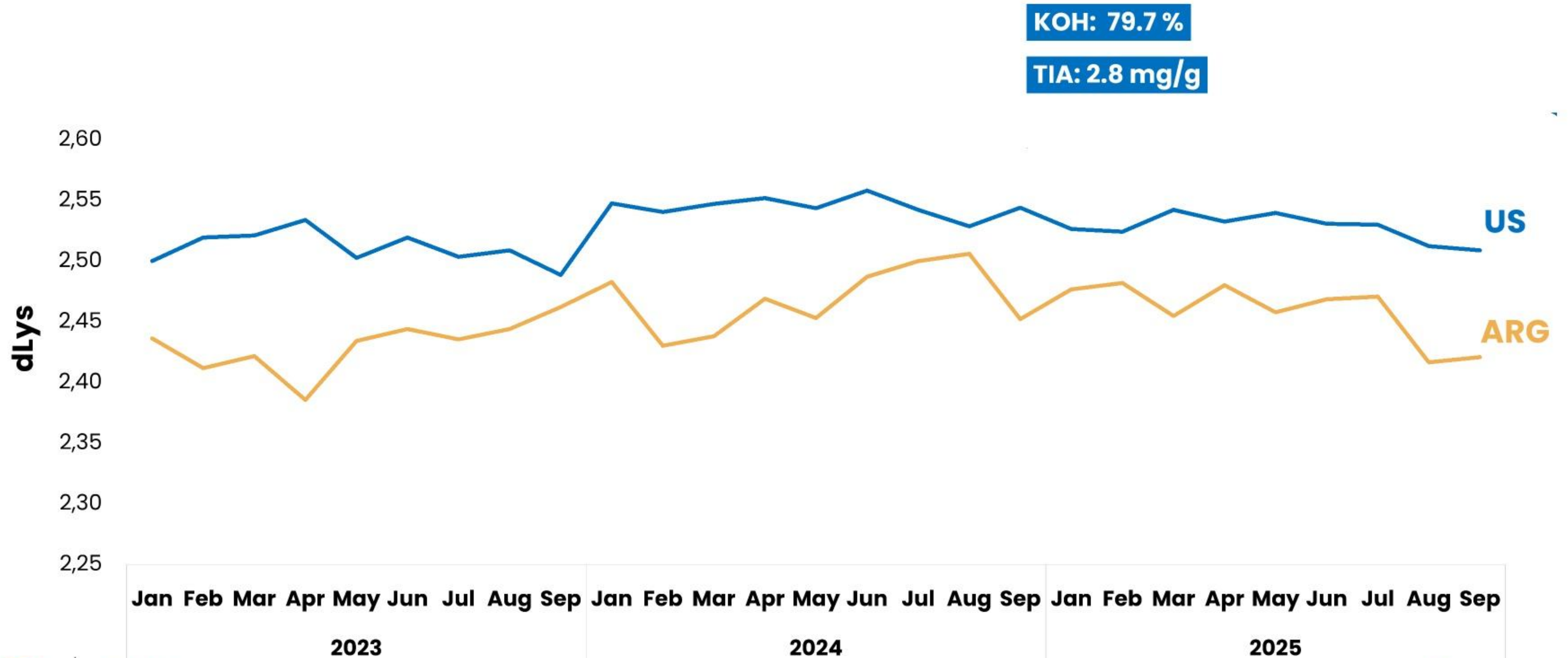


# Crude Protein Quality\*



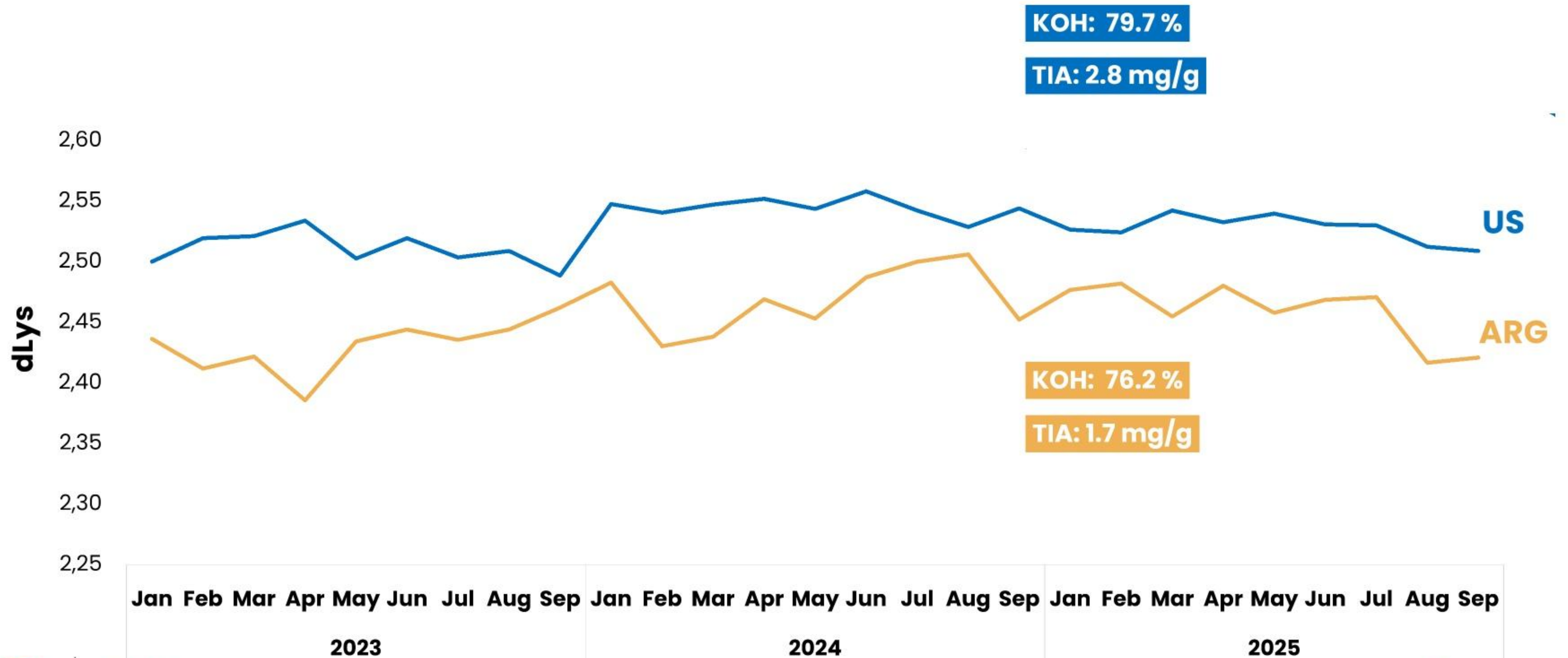


# Crude Protein Quality\*



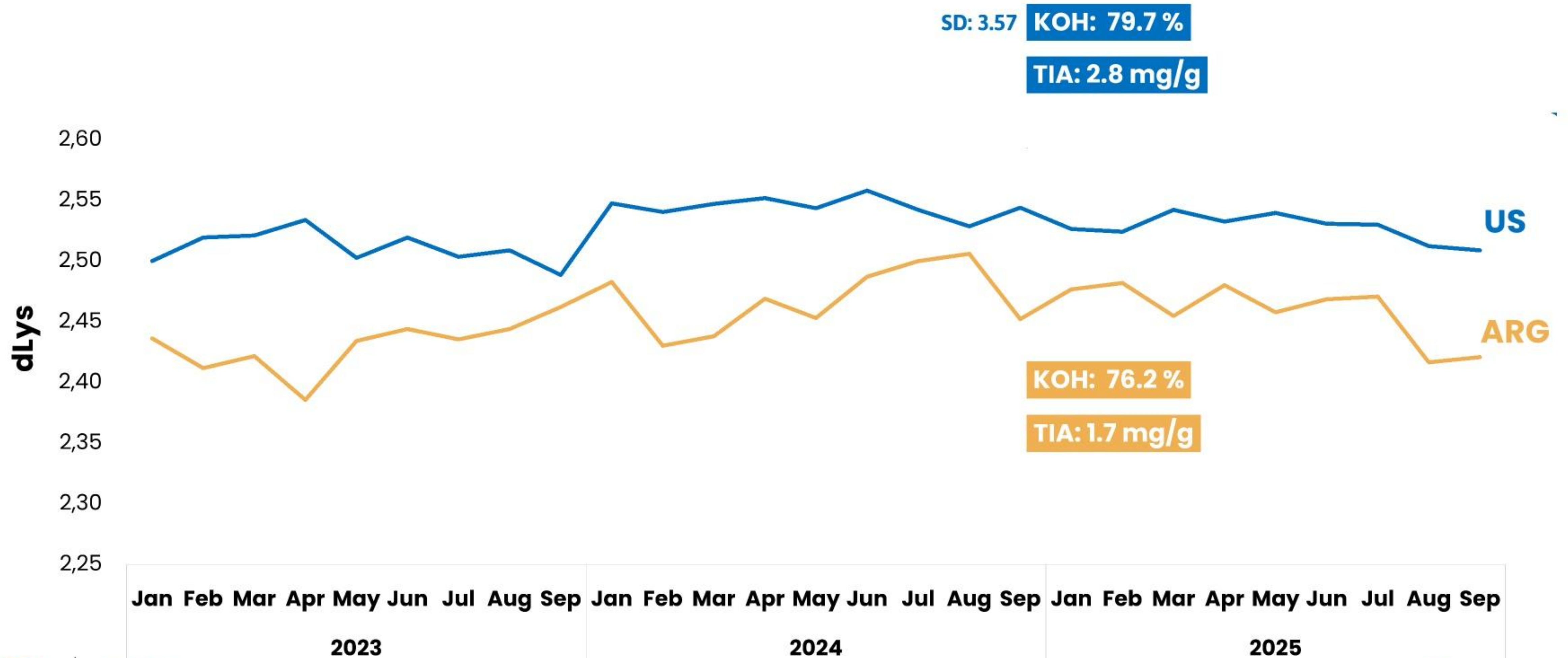


# Crude Protein Quality\*



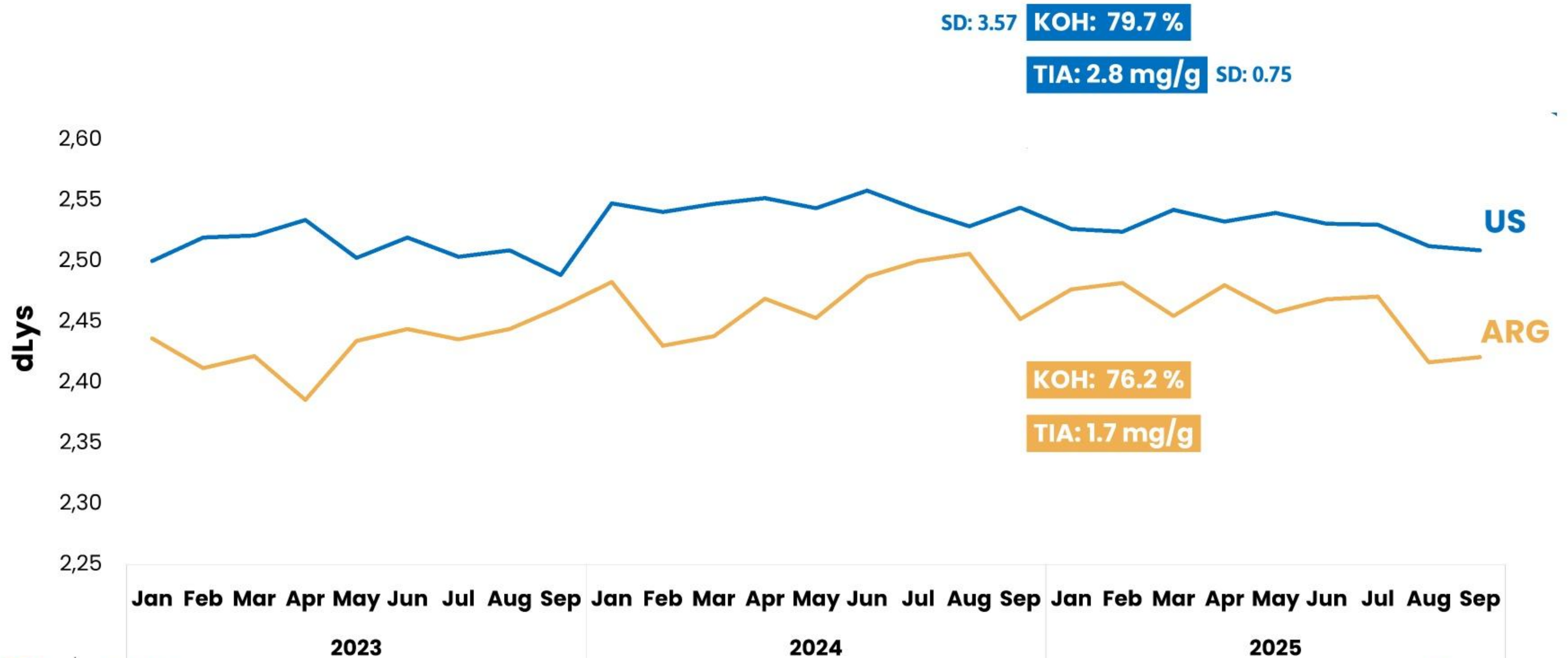


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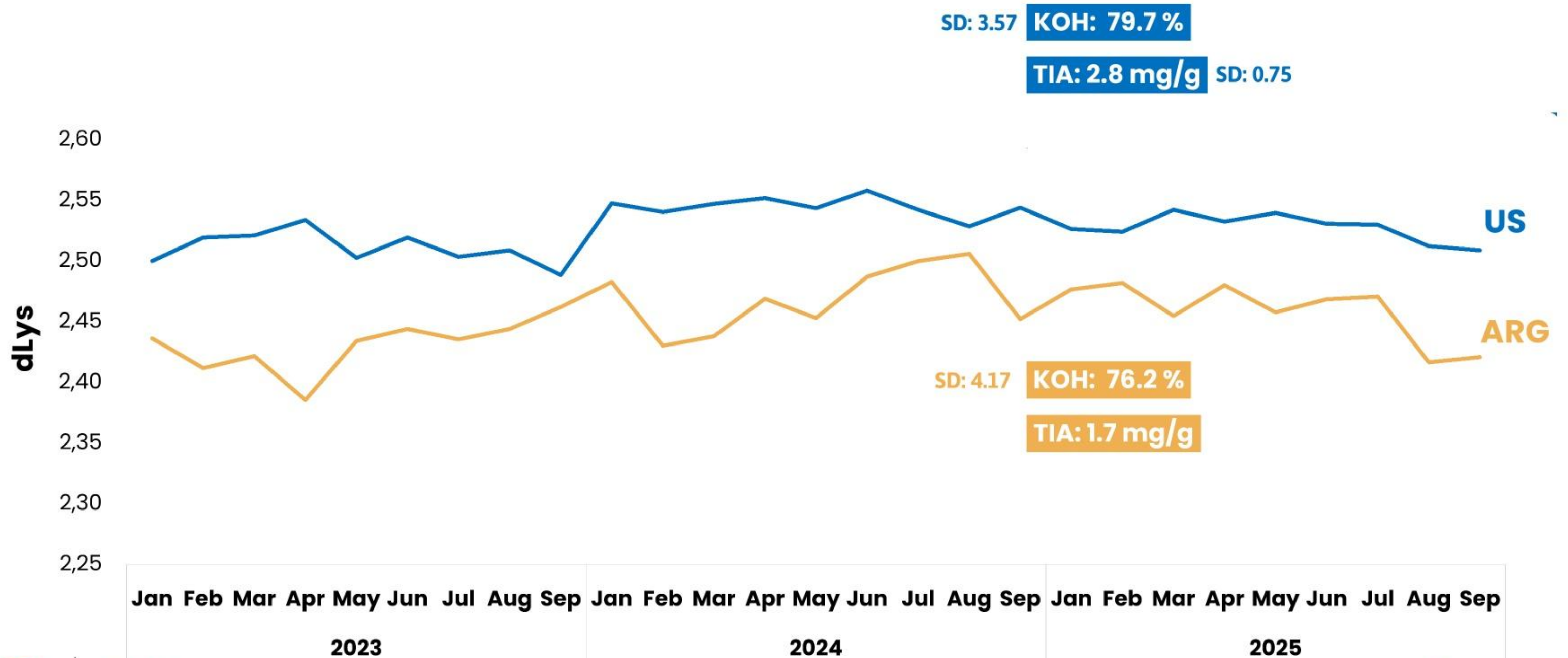


# Crude Protein Quality\*



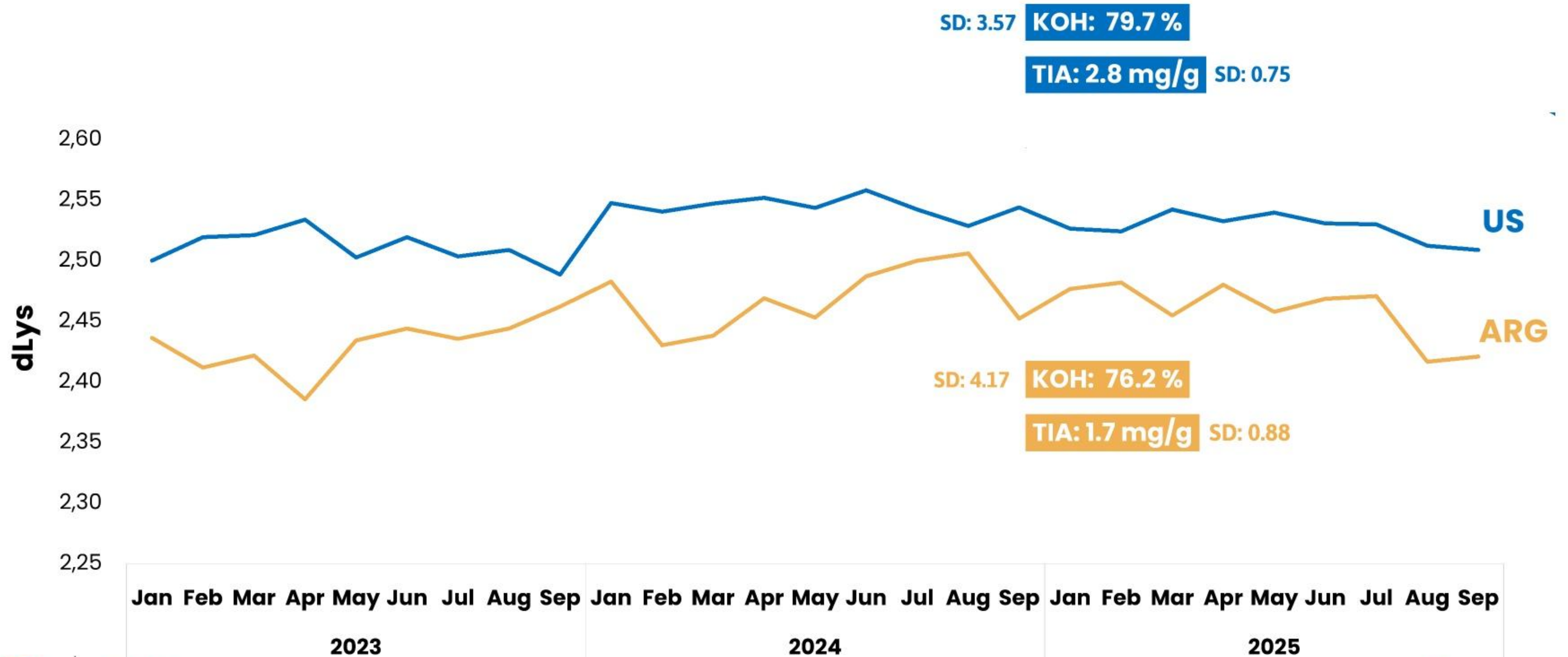


# Crude Protein Quality\*



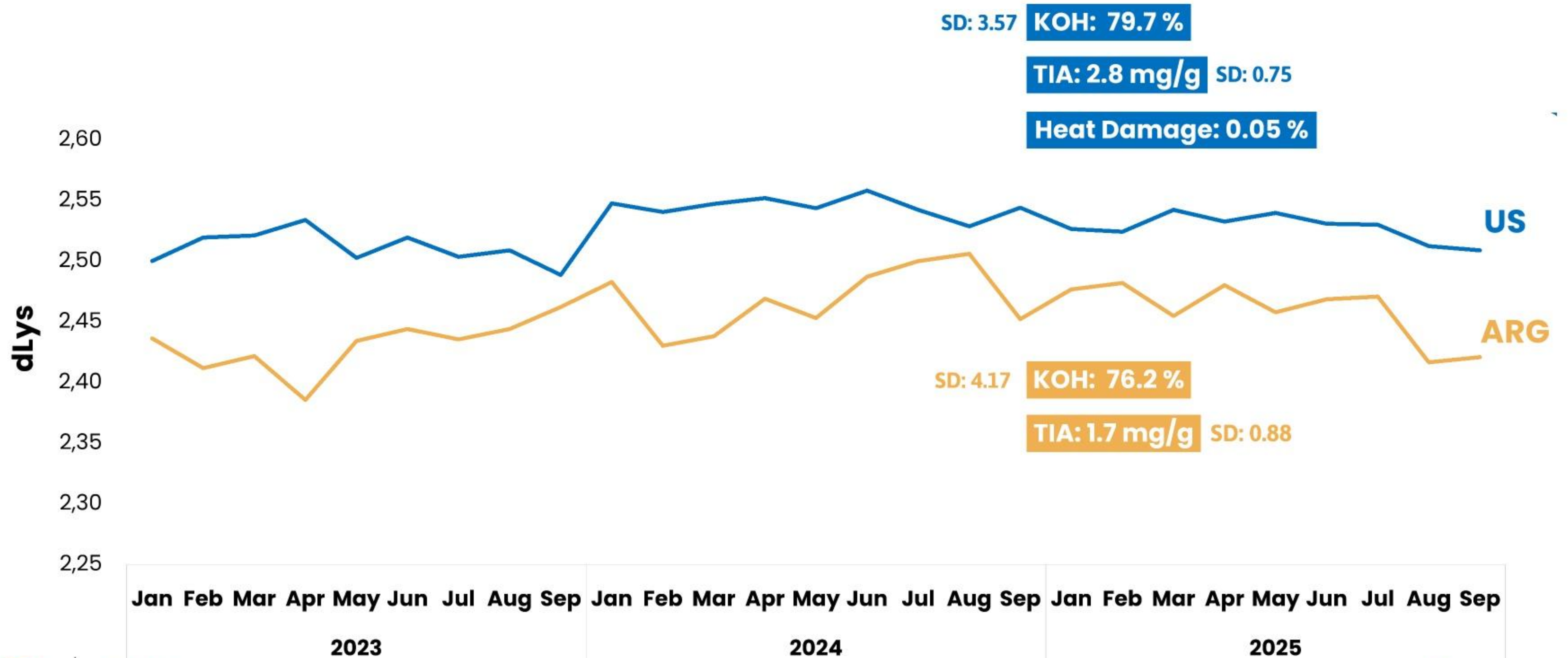


# Crude Protein Quality\*



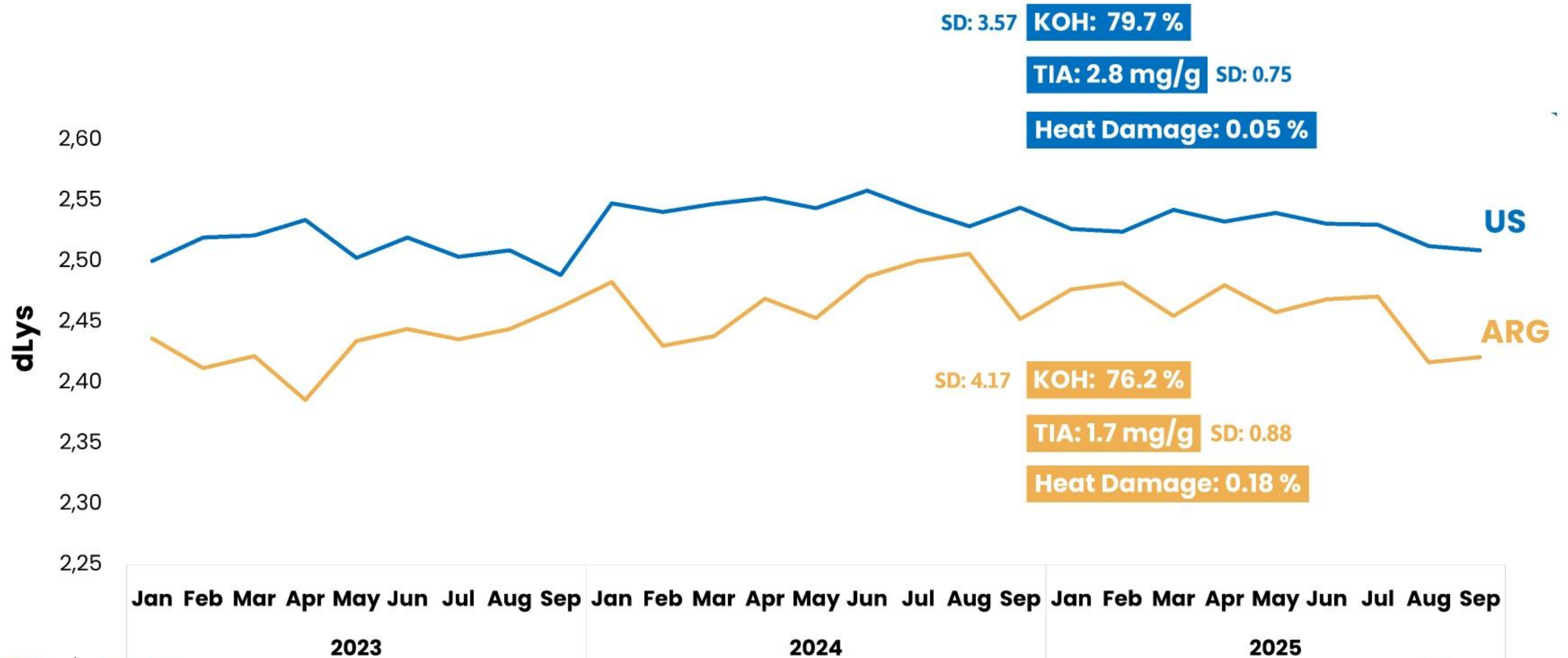


# Crude Protein Quality\*



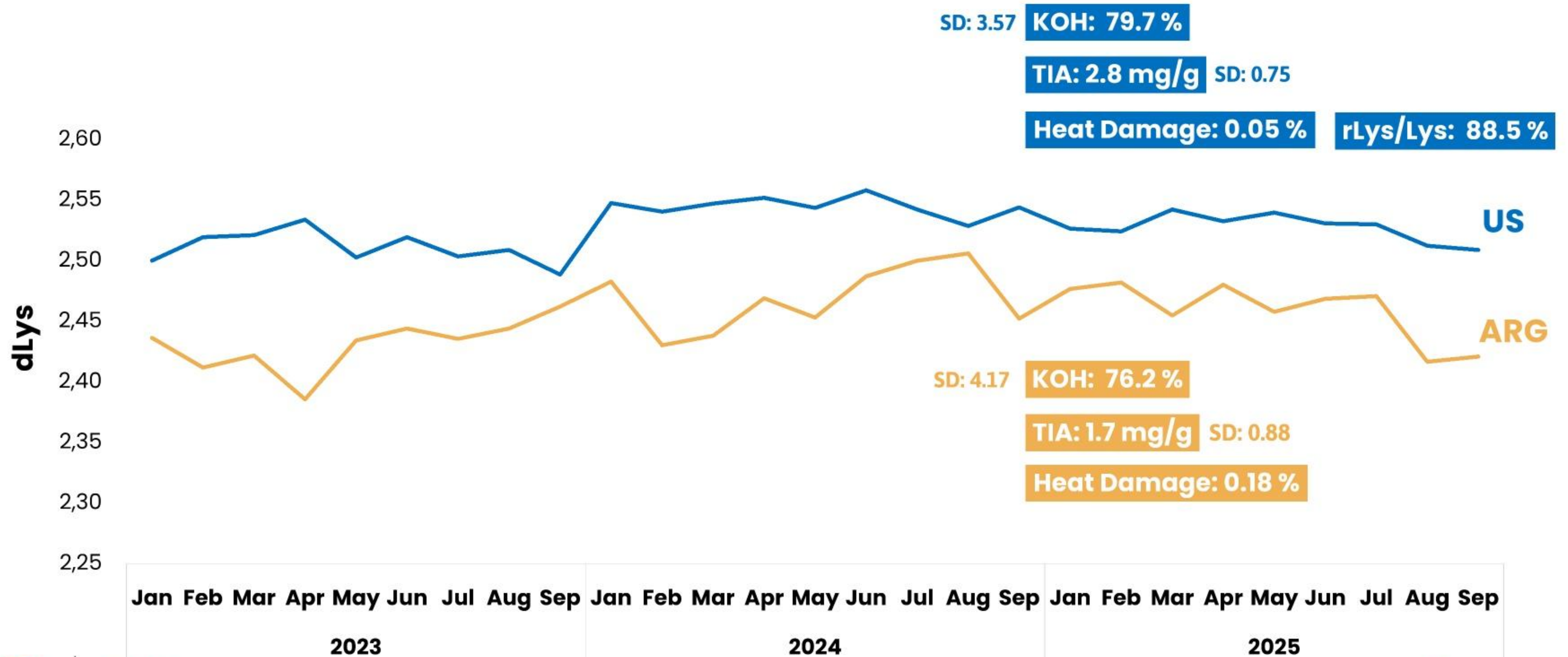


# Crude Protein Quality\*



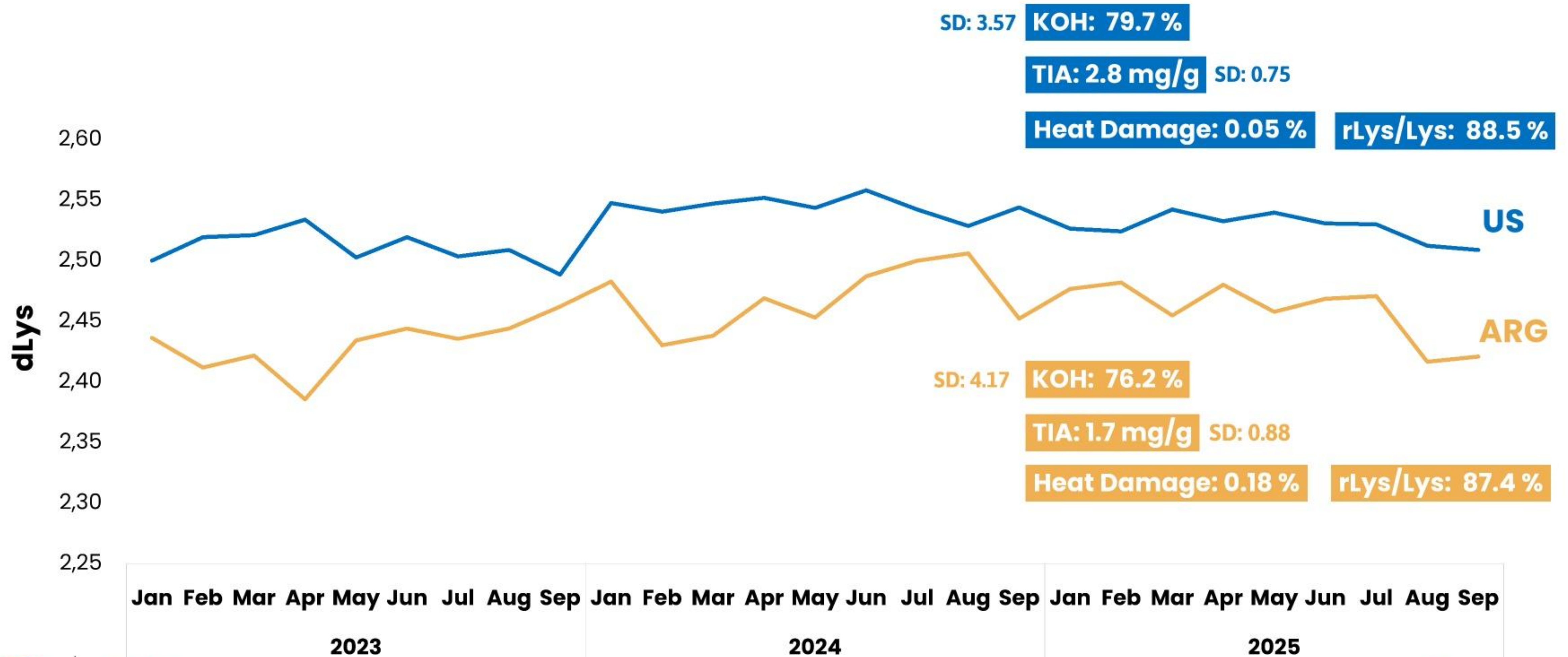


# Crude Protein Quality\*



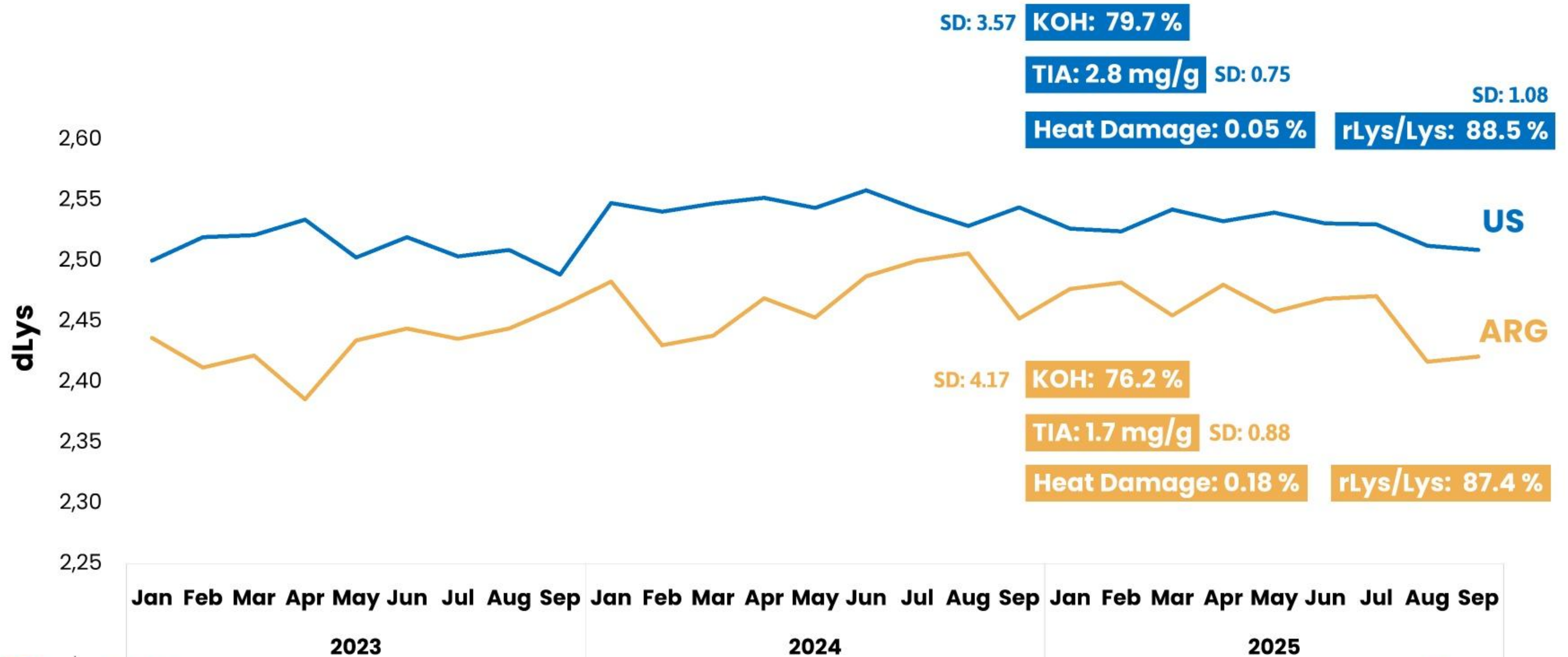


# Crude Protein Quality\*



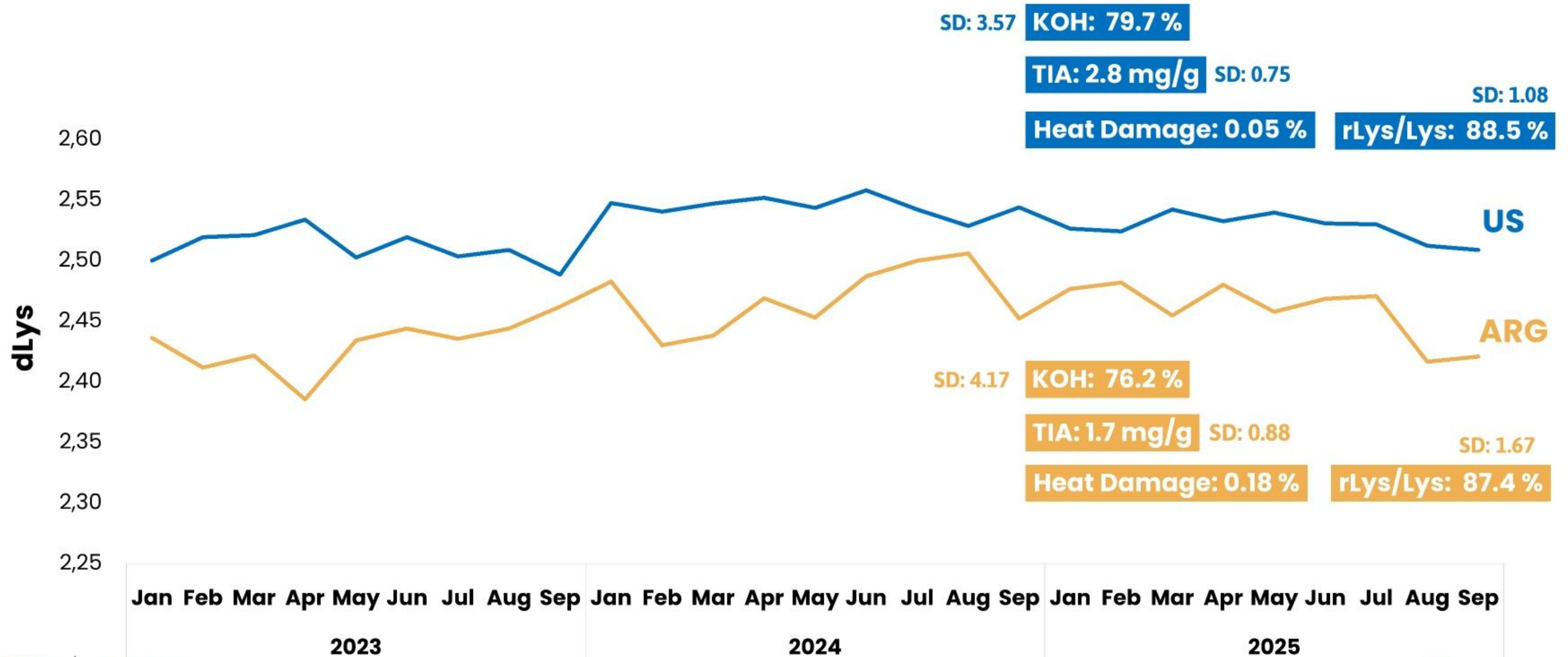


# Crude Protein Quality\*



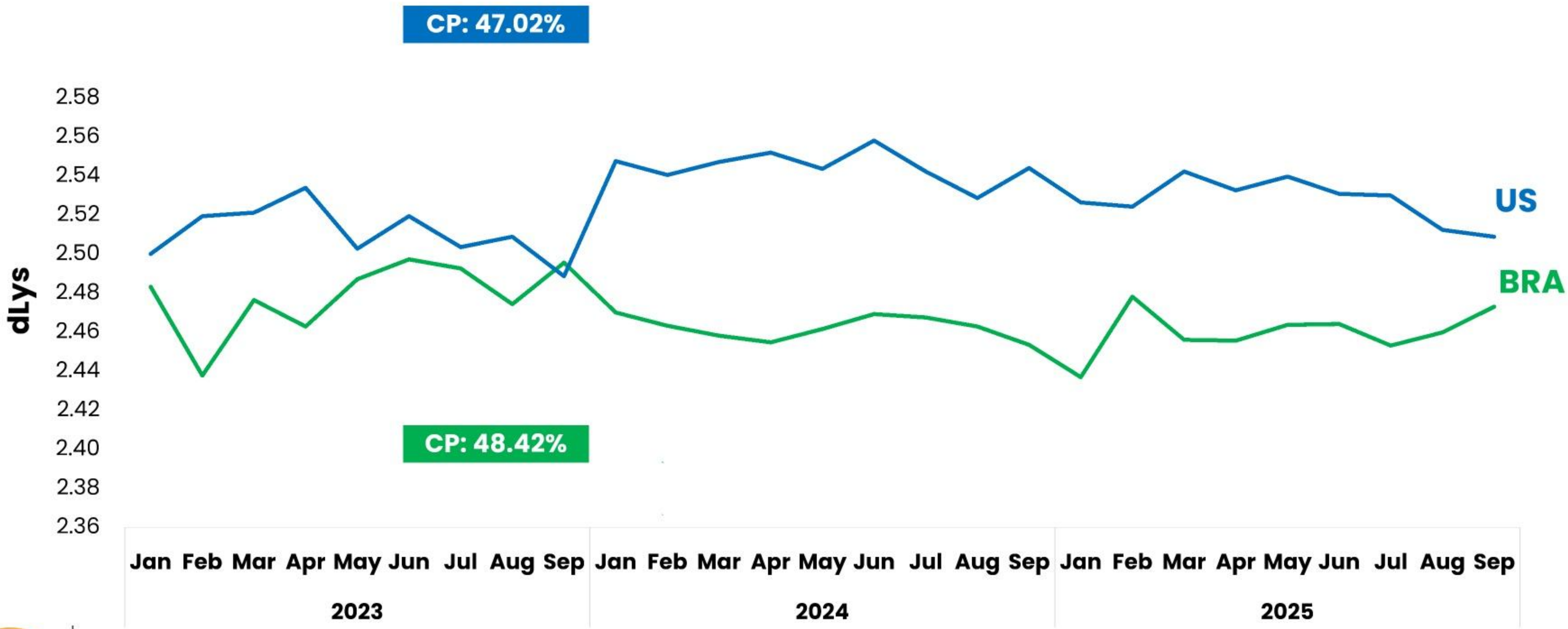


# Crude Protein Quality\*





# Crude Protein Quality\*



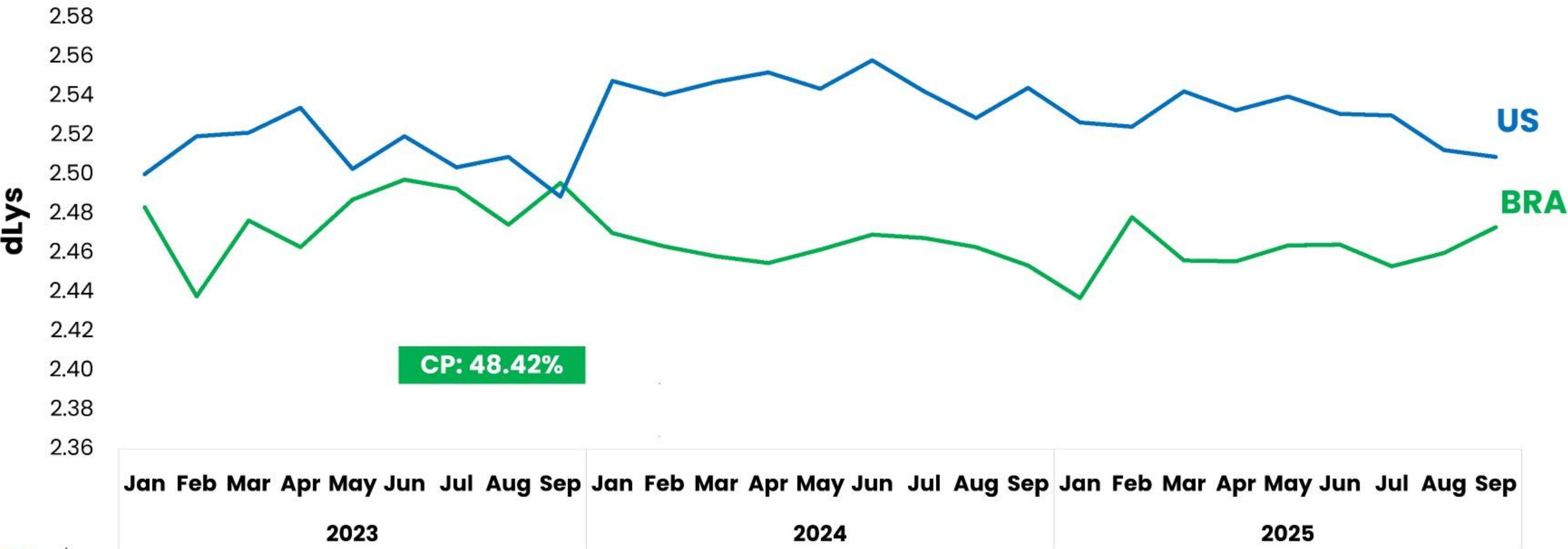


# Crude Protein Quality\*

KOH: 79.05 %

CP: 47.02%

TIA: 2.75 mg/g





# Crude Protein Quality\*

KOH: 79.05 %

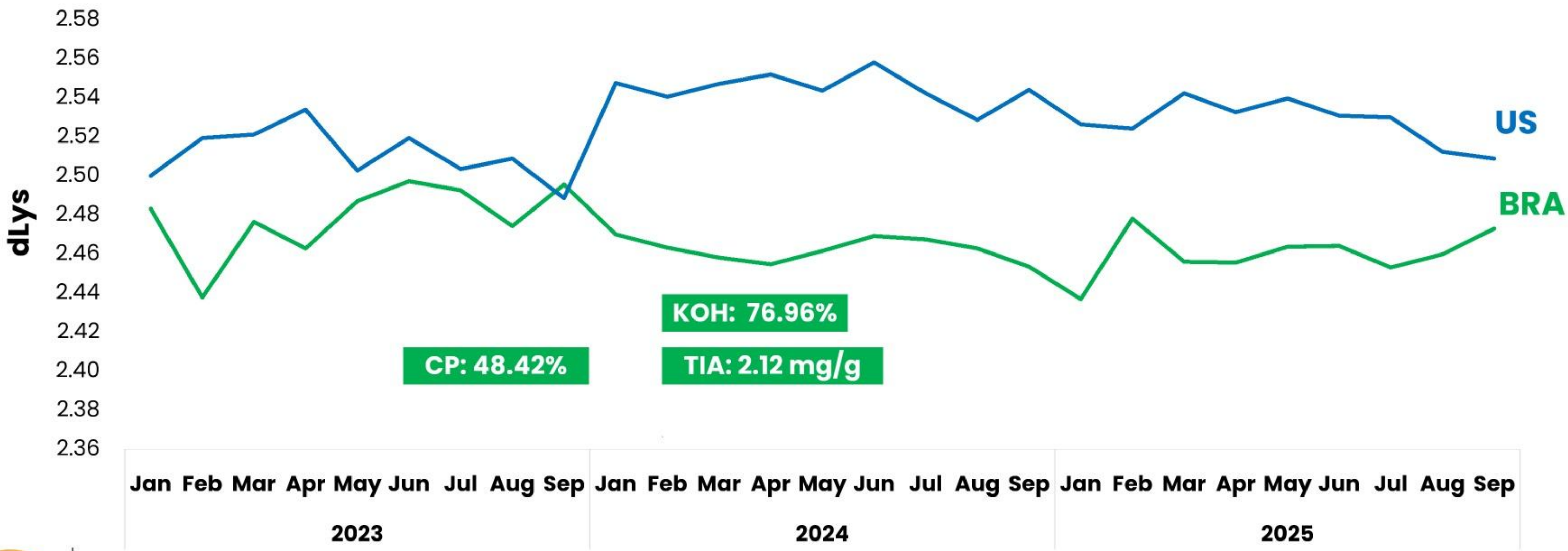
CP: 47.02%

TIA: 2.75 mg/g

KOH: 76.96%

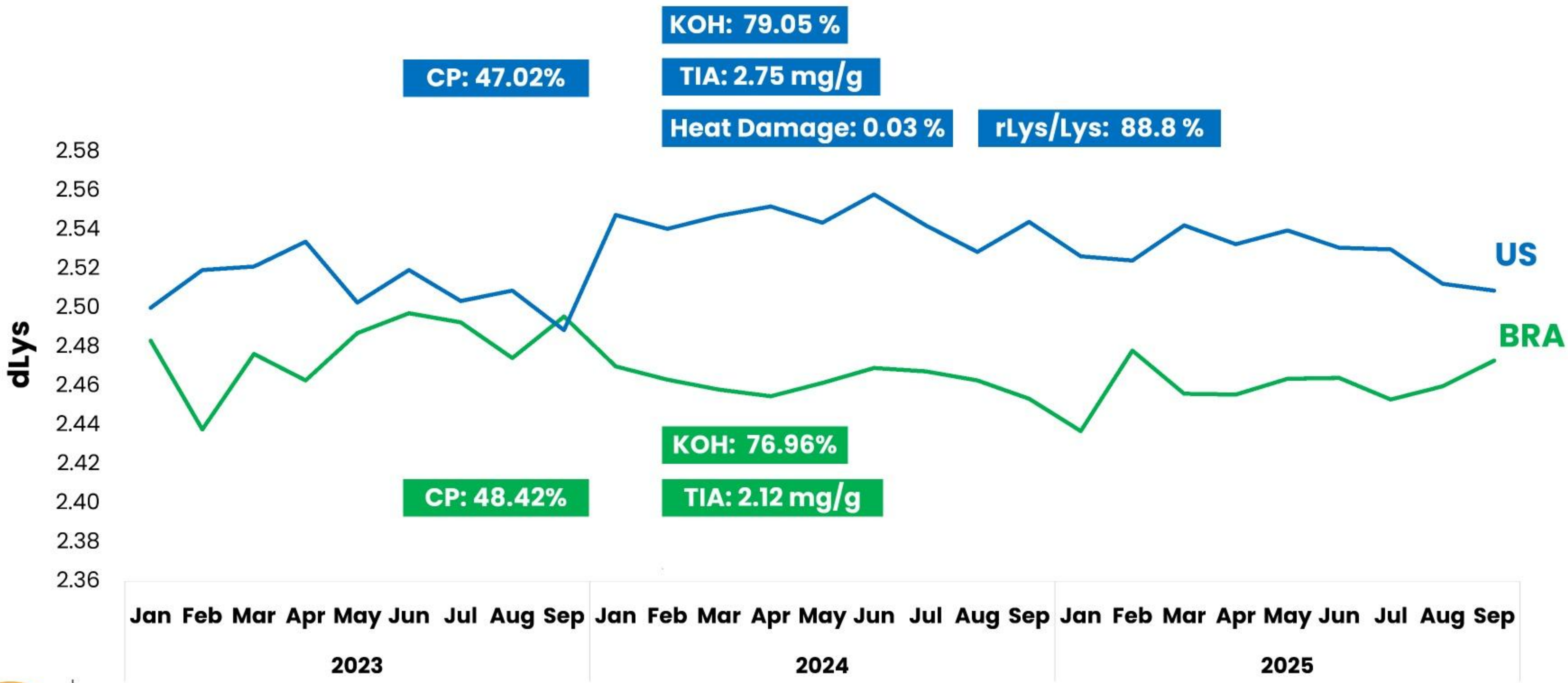
CP: 48.42%

TIA: 2.12 mg/g



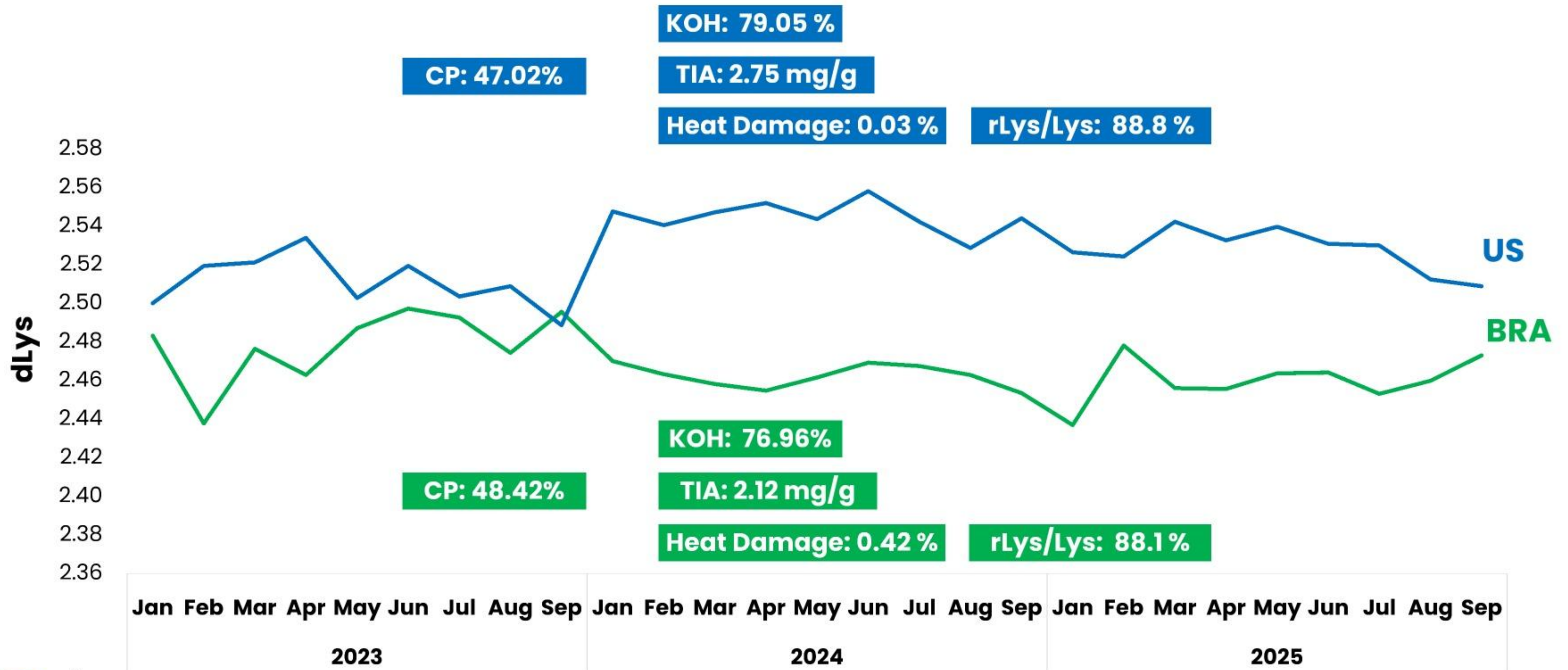


# Crude Protein Quality\*



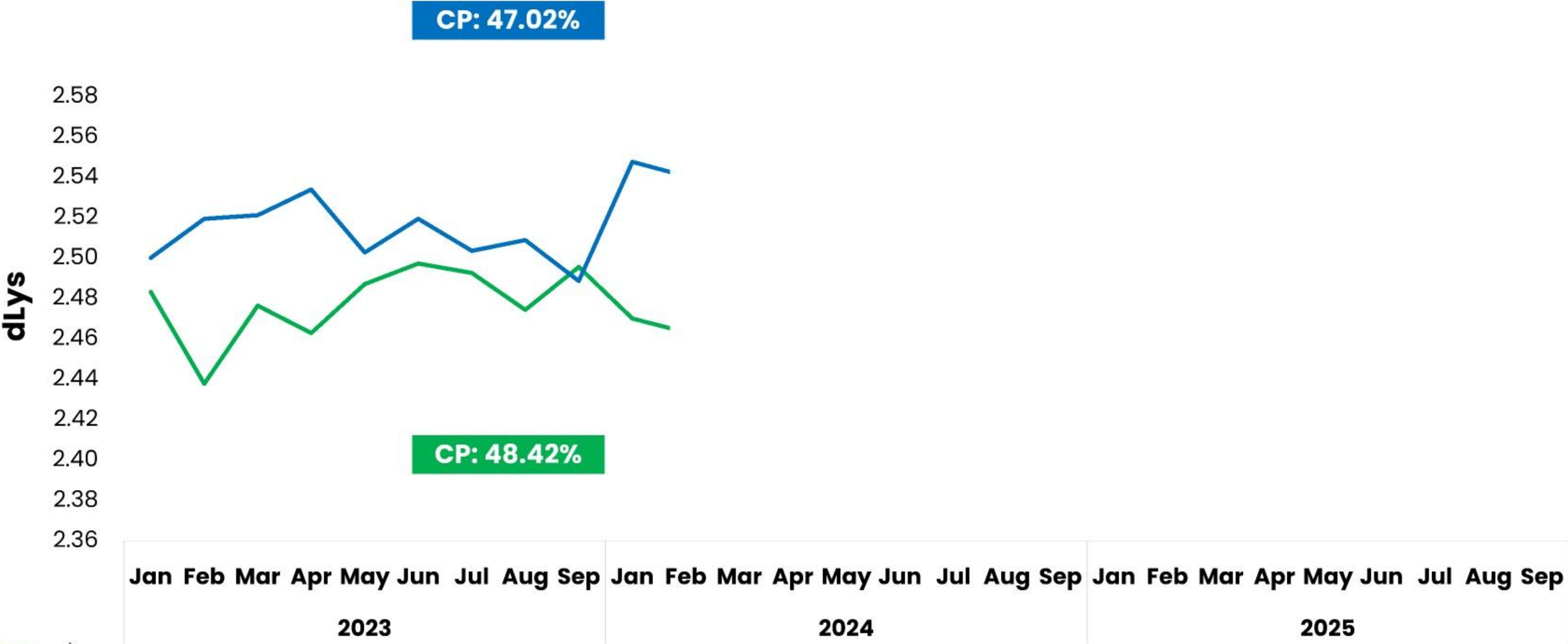


# Crude Protein Quality\*





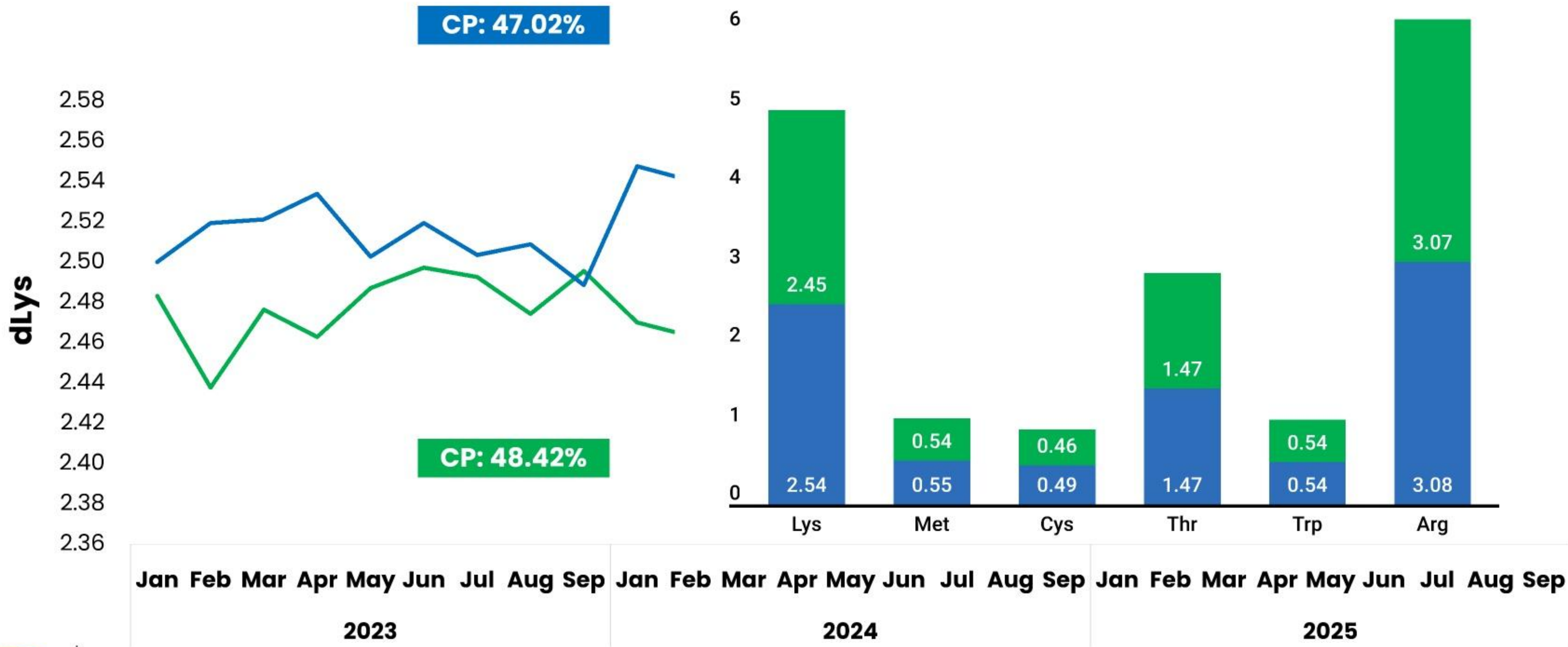
# Crude Protein Quality\*





# Crude Protein Quality\*

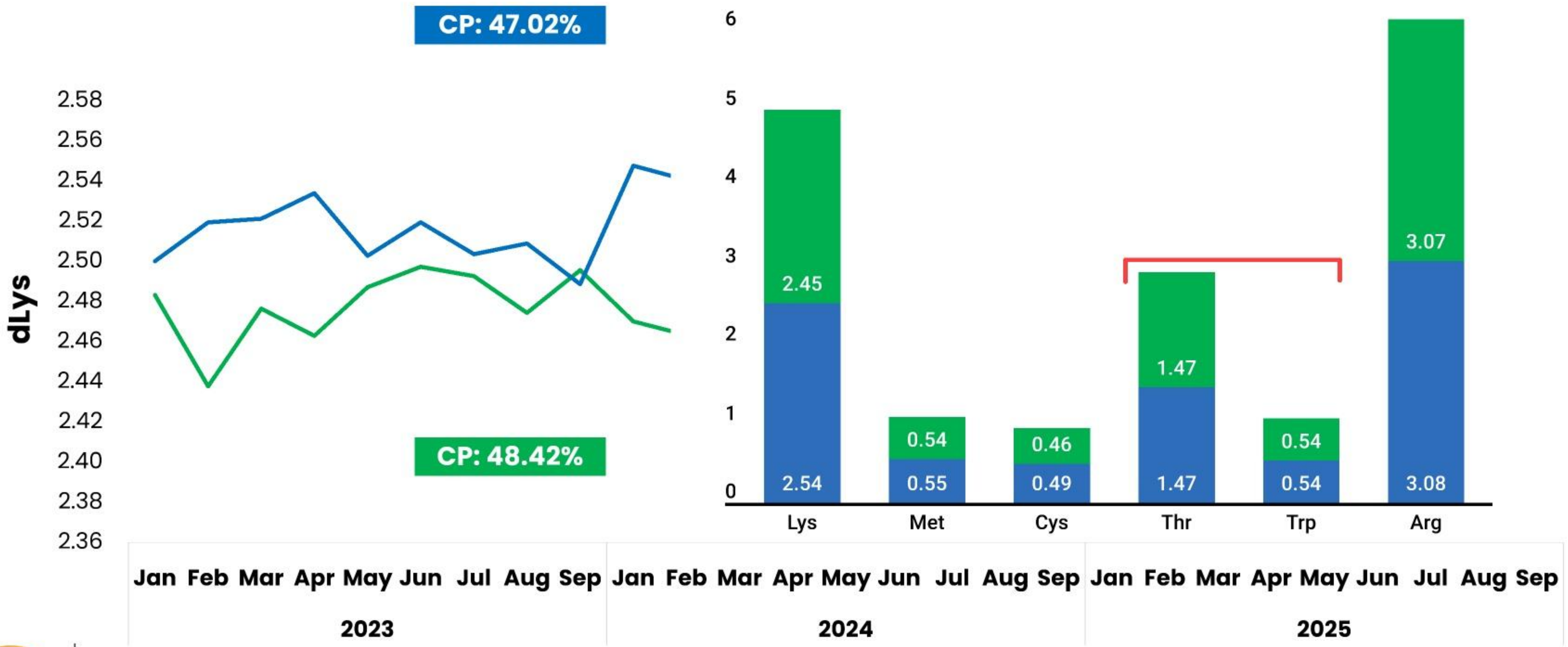
● US ● BRA





# Crude Protein Quality\*

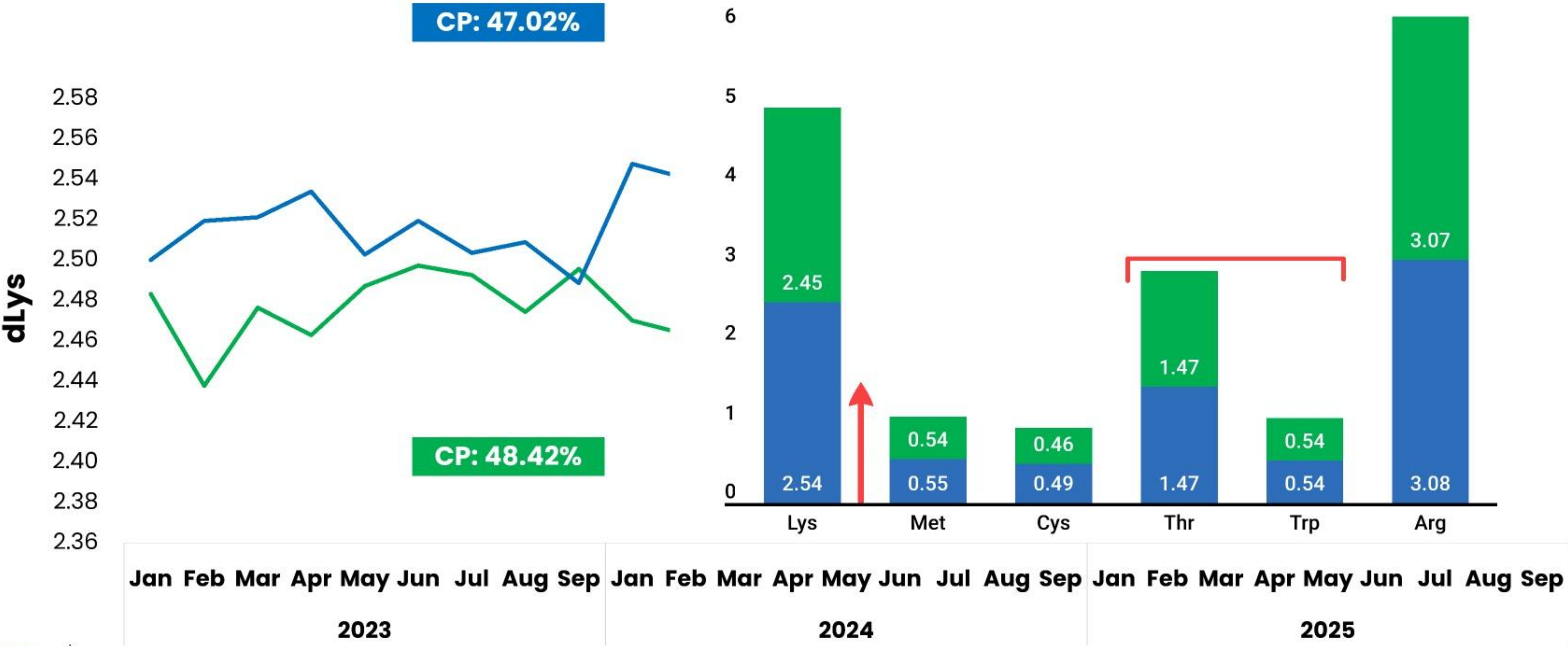
● US ● BRA





# Crude Protein Quality\*

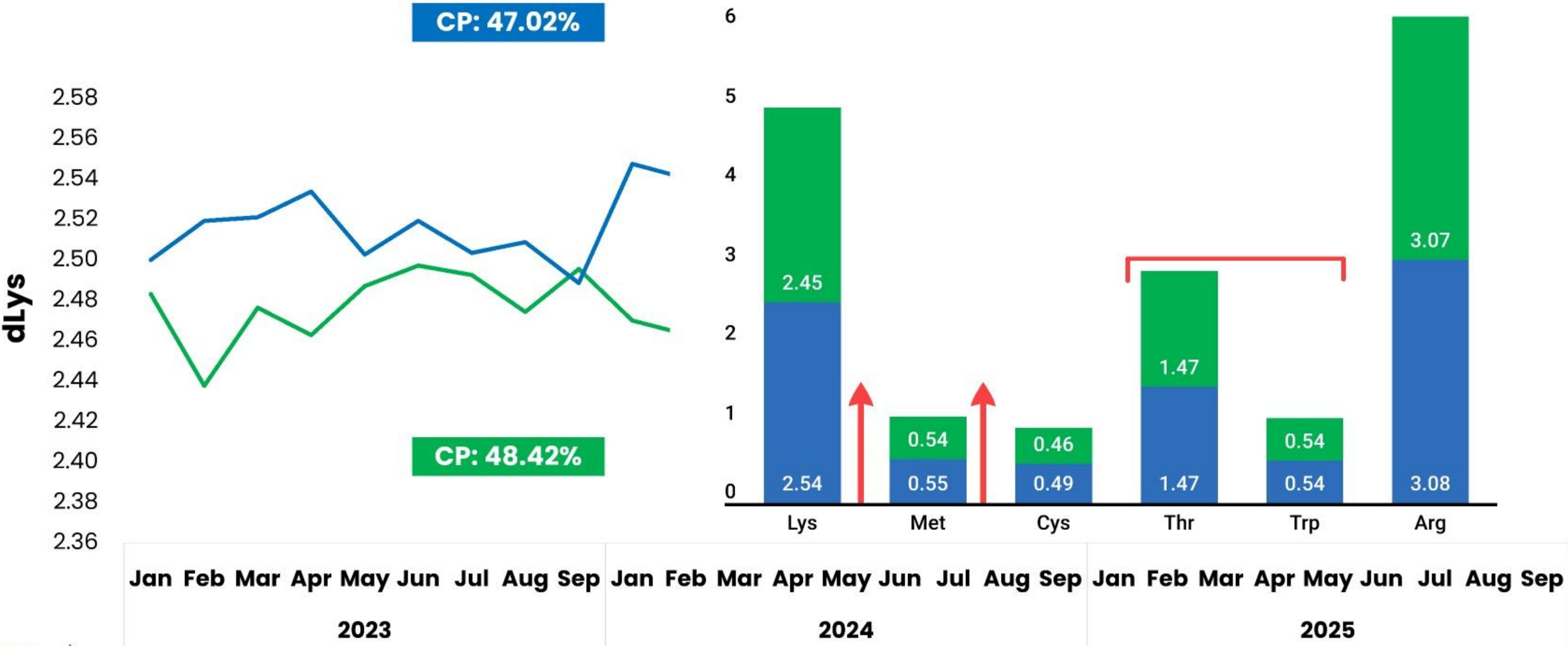
● US ● BRA





# Crude Protein Quality\*

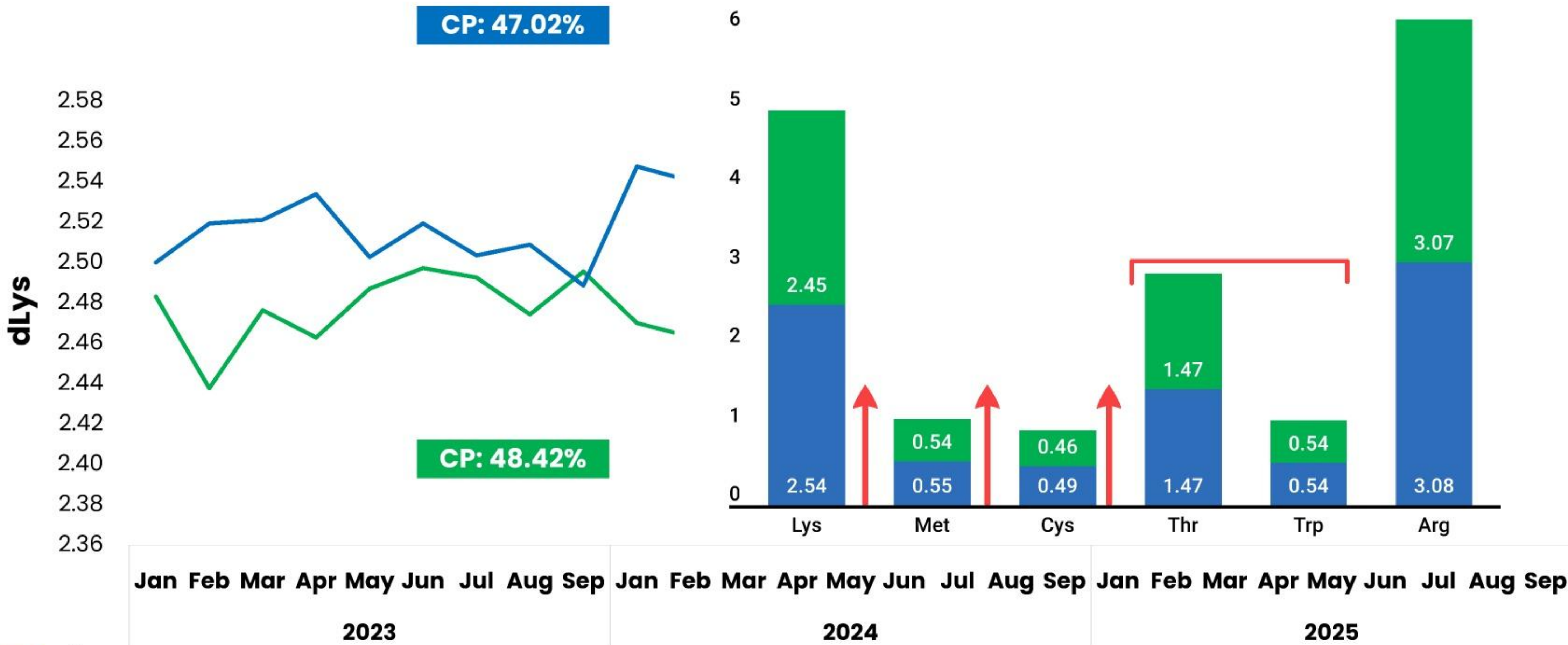
● US ● BRA





# Crude Protein Quality\*

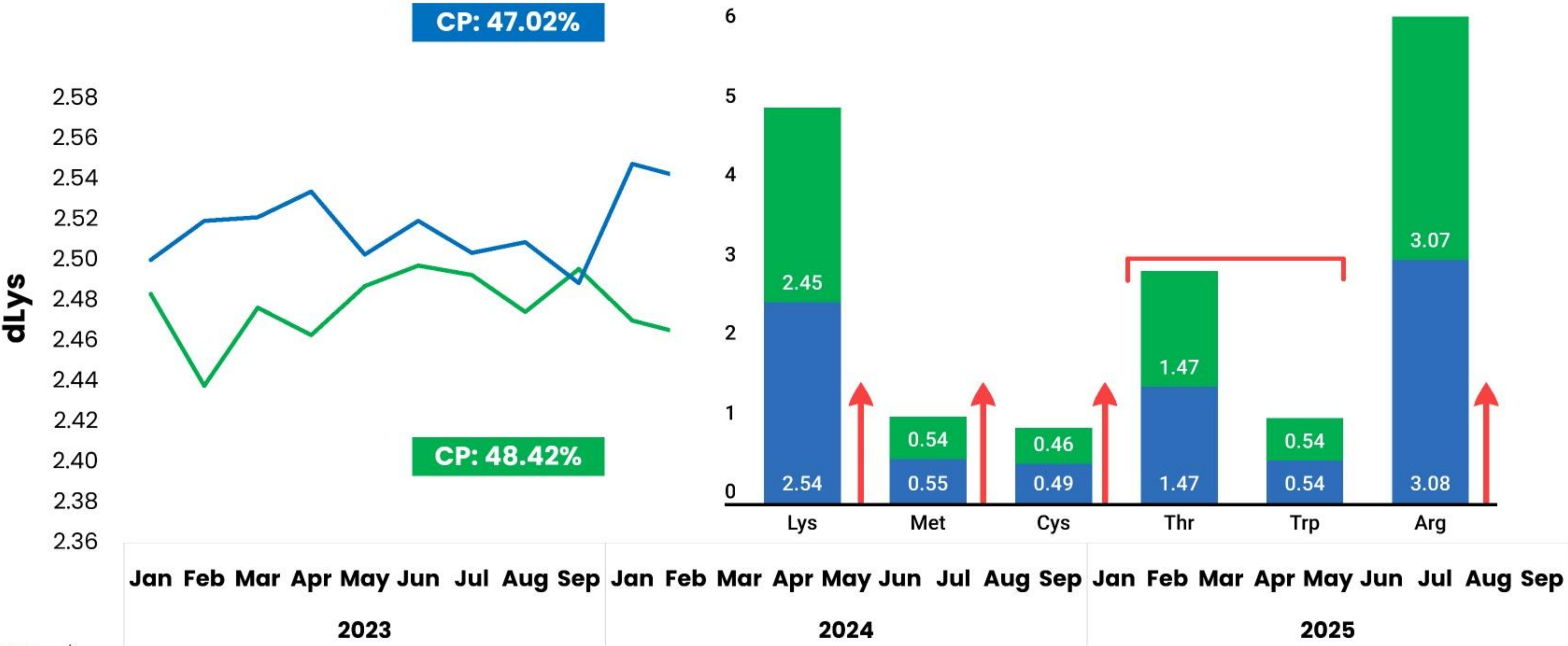
● US ● BRA





# Crude Protein Quality\*

● US ● BRA



























# Maria Adkison MS. PhD.

MAdkison@ussec.org

Animal Utilization Lead - AMERICAS





Tokyo, Japan  
November, 2025

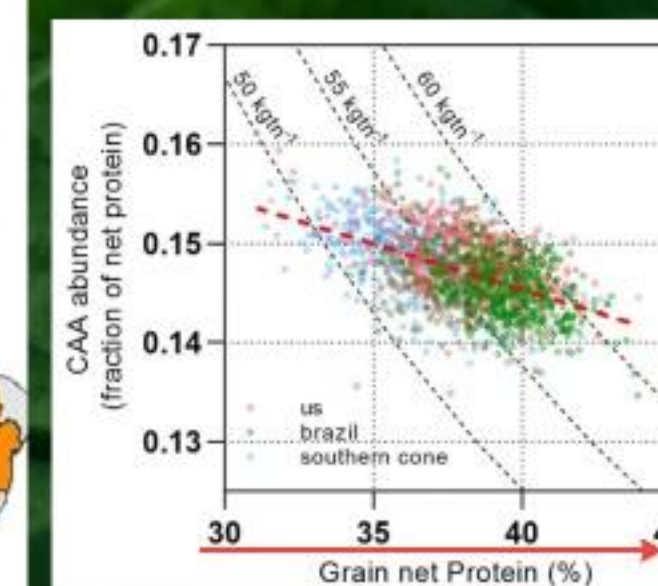
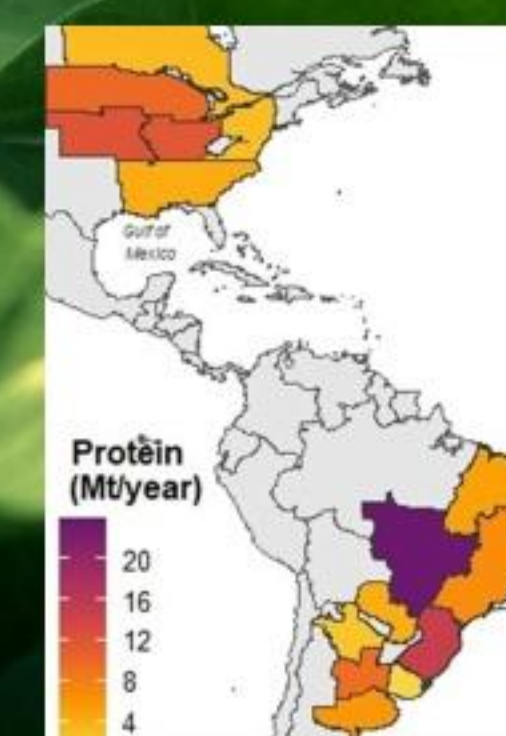
[illegible][illegible]

USDA  
20 Years

A large pile of yellow soybeans fills the lower half of the page. The USDA 20 Years logo is in the top left corner, featuring the text 'USDA' above a large '20' with 'Years' to its right. The '20' is stylized with a green leaf-like shape on the '0'. Green circular graphic elements are on the left and right sides of the soybean pile.

- Harvest and storage.
- Consistency (post-harvest and processing).
- Amino acids profile.
- Energy content.

# Origins





# What Evonik's Data Tells Us?

Tokyo, Japan  
November, 2025



**Section 2. MEAL QUALITY**

The standard of quality shall be the soybean meal of fair merchantable quality conforming to standard definitions and standard specifications of the Association, as set forth in these Trading Rules. Analysis shall be made in accordance with methods approved by the American Oil Chemists' Society (AOCS) in effect as of the date of the contract. [See Appendix A, Section 2.]

**Section 3. MEAL SPECIFICATIONS**

All specifications can be modified based on agreements between buyer and seller.

Soybean Meal (as defined above under Rule 2, Section 1)

Typical soybean meal product specifications are as follows:

| Protein (Range)    | 44.0 – 49.0 % |
|--------------------|---------------|
| Fat                | 0.5 %         |
| Fiber (Maximum)    | 3.5 %         |
| Moisture (Maximum) | 12.0 %        |

In accordance with industry practices and as allowed under the 2024 AAFCO Official Publication, soybean meal products may also contain the following:

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Flavorability Agents (Maximum) | 0.5% or 10 lbs per ton by weight of total product |
| Spent Bleach Clay (Maximum)    | 0.2% or 4 lbs per ton by weight of total product  |

## What is protein?

Multifunctional Molecules

| TABLE 10-1 - GRADES AND GRADE REQUIREMENTS FOR SOYBEANS |                                                                                                                                 |
|---------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Grade                                                   | Requirements                                                                                                                    |
| Grade 1                                                 | At least 55% of the sample must be whole soybeans, free from foreign matter, and must contain at least 44% protein and 18% oil. |
| Grade 2                                                 | At least 50% of the sample must be whole soybeans, free from foreign matter, and must contain at least 42% protein and 16% oil. |
| Grade 3                                                 | At least 45% of the sample must be whole soybeans, free from foreign matter, and must contain at least 40% protein and 14% oil. |
| Grade 4                                                 | At least 40% of the sample must be whole soybeans, free from foreign matter, and must contain at least 38% protein and 12% oil. |

Maria Adkison MS. PhD.  
MAdkison@ussec.org  
Animal Utilization Lead - AMERICAS

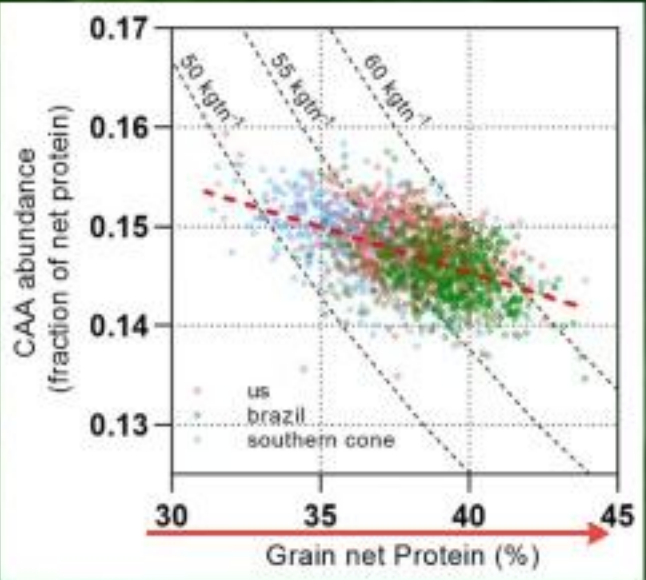
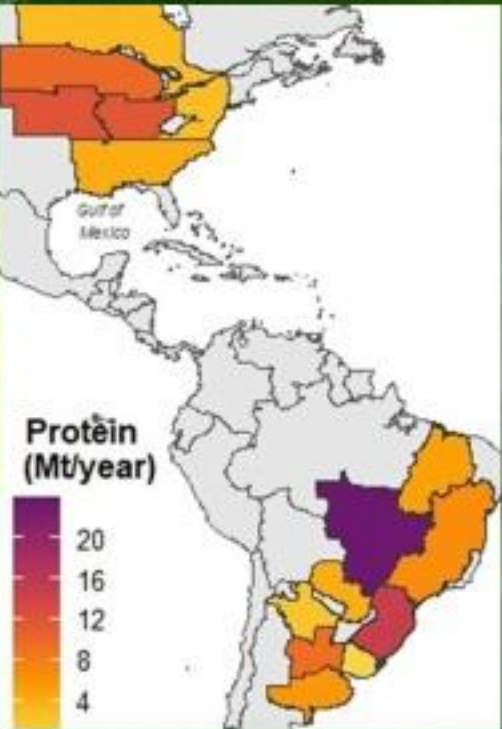


## United States Soybean Meal Quality Differentiators



Harvest and storage.  
Consistency (post-harvest and processing).  
Amino acids profile.  
Energy content.

## Origins





# What Evonik's Data Tells Us?

Tokyo, Japan  
November, 2025



**Section 2. MEAL QUALITY**

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|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Flavorability Agents (Maximum) | 0.5% or 10 lbs per ton by weight of total product |
| Spent Bleach Clay (Maximum)    | 0.2% or 4 lbs per ton by weight of total product  |

## What is protein?



TABLE 101 - GRADES AND GRADE REQUIREMENTS FOR SOYBEANS

| Grade   | Minimum Requirements | Maximum Allowance |
|---------|----------------------|-------------------|
| Grade 1 | 90% Soybean Meal     | 10%               |
| Grade 2 | 85% Soybean Meal     | 15%               |
| Grade 3 | 80% Soybean Meal     | 20%               |

Maria Adkison MS. PhD.  
MAdkison@ussec.org  
Animal Utilization Lead - AMERICAS

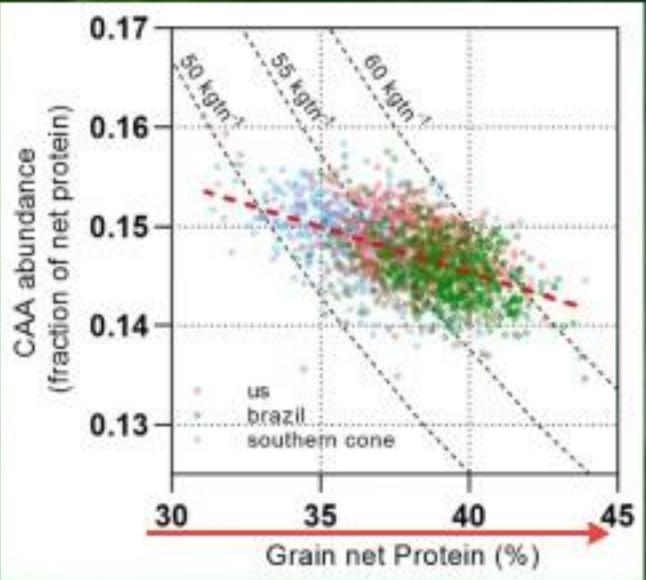
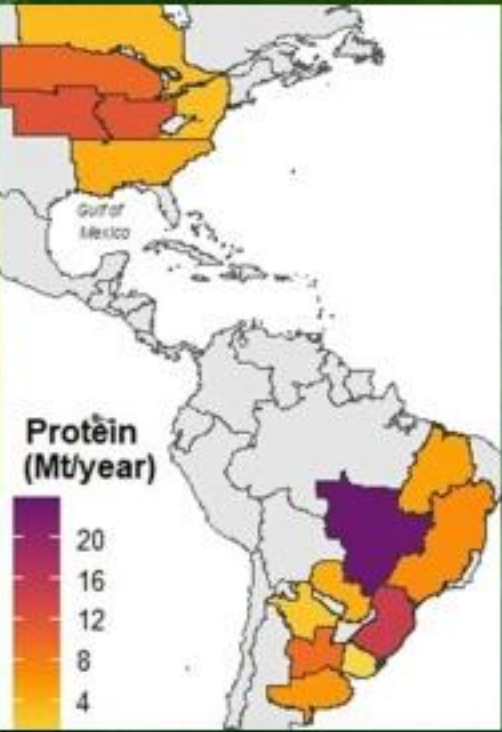


## United States Soybean Meal Quality Differentiators



Harvest and storage.  
Consistency (post-harvest and processing).  
Amino acids profile.  
Energy content.

## Origins





# What Evonik's Data Tells Us?

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November, 2025



**Section 2. MEAL QUALITY**

The standard of quality shall be the soybean meal of fair merchantable quality conforming to standard definitions and standard specifications of the Association, as set forth in these Trading Rules. Analysis shall be made in accordance with methods approved by the American Oil Chemists' Society (AOCS) in effect as of the date of the contract. [See Appendix A, Section 2]

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Soybean Meal (as defined above under Rule 2, Section 1)

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| Protein (Range)    | 44.0 – 49.0 % |
|--------------------|---------------|
| Fat                | 0.5 %         |
| Fiber (Maximum)    | 3.5 %         |
| Moisture (Maximum) | 12.0 %        |

In accordance with industry practices and as allowed under the 2024 AAFCO Official Publication, soybean meal products may also contain the following:

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Flavorability Agents (Maximum) | 0.5% or 10 lbs per ton by weight of total product |
| Spent Bleach Clay (Maximum)    | 0.2% or 4 lbs per ton by weight of total product  |

## What is protein?



**TABLE 101 - GRADES AND GRADE REQUIREMENTS FOR SOYBEANS**

| Grade   | Minimum Protein (%) | Minimum Oil (%) |         |         |         |
|---------|---------------------|-----------------|---------|---------|---------|
|         |                     | Grade 1         | Grade 2 | Grade 3 | Grade 4 |
| Grade 1 | 44.0                | 18.0            | 18.0    | 18.0    | 18.0    |
| Grade 2 | 43.0                | 17.0            | 17.0    | 17.0    | 17.0    |
| Grade 3 | 42.0                | 16.0            | 16.0    | 16.0    | 16.0    |
| Grade 4 | 41.0                | 15.0            | 15.0    | 15.0    | 15.0    |

Maria Adkison MS. PhD.  
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Animal Utilization Lead - AMERICAS

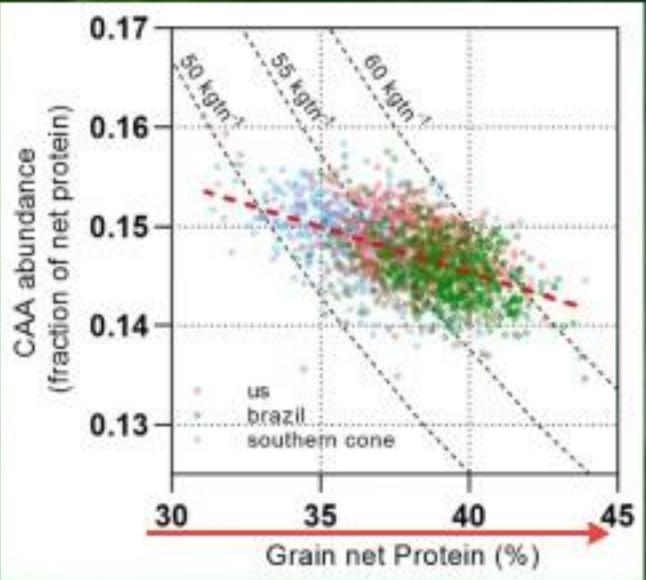
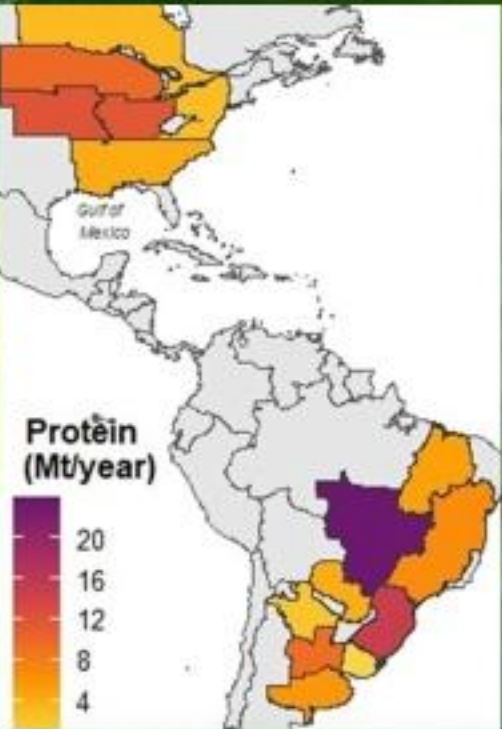


## United States Soybean Meal Quality Differentiators



Harvest and storage.  
Consistency (post-harvest and processing).  
Amino acids profile.  
Energy content.

## Origins





# What Evonik's Data Tells Us?

Tokyo, Japan  
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**Section 2. MEAL QUALITY**

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|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Flavorability Agents (Maximum) | 0.5% or 10 lbs per ton by weight of total product |
| Spent Bleach Clay (Maximum)    | 0.2% or 4 lbs per ton by weight of total product  |

## What is protein?

Multifunctional Molecules

| TABLE 10-1 - GRADES AND GRADE REQUIREMENTS FOR SOYBEANS |                                                                                                                                                       |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Grade                                                   | Requirements                                                                                                                                          |
| Grade 1                                                 | At least 55% of the sample must be whole soybeans, not broken, and must contain at least 44% protein by weight, based on a moisture content of 10.5%. |
| Grade 2                                                 | At least 50% of the sample must be whole soybeans, not broken, and must contain at least 42% protein by weight, based on a moisture content of 10.5%. |
| Grade 3                                                 | At least 45% of the sample must be whole soybeans, not broken, and must contain at least 40% protein by weight, based on a moisture content of 10.5%. |
| Grade 4                                                 | At least 40% of the sample must be whole soybeans, not broken, and must contain at least 38% protein by weight, based on a moisture content of 10.5%. |

Maria Adkison MS. PhD.  
MAdkison@ussec.org  
Animal Utilization Lead - AMERICAS

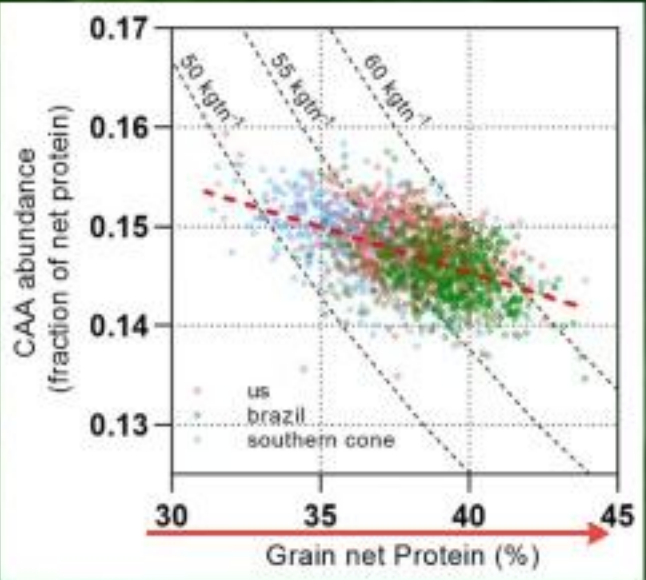
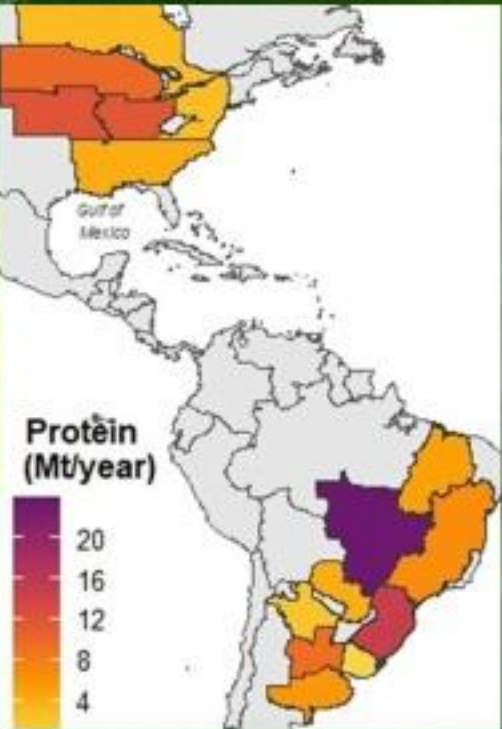


## United States Soybean Meal Quality Differentiators



Harvest and storage.  
Consistency (post-harvest and processing).  
Amino acids profile.  
Energy content.

## Origins





# What Evonik's Data Tells Us?

Tokyo, Japan  
November, 2025



**Section 2. MEAL QUALITY**

The standard of quality shall be the soybean meal of fair merchantable quality conforming to standard definitions and standard specifications of the Association, as set forth in these Trading Rules. Analysis shall be made in accordance with methods approved by the American Oil Chemists' Society (AOCS) in effect as of the date of the contract. [See Appendix A, Section 2.]

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| Fiber (Maximum)    | 3.5 %         |
| Moisture (Maximum) | 12.0 %        |

In accordance with industry practices and as allowed under the 2024 AAFCO Official Publication, soybean meal products may also contain the following:

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Flavorability Agents (Maximum) | 0.5% or 10 lbs per ton by weight of total product |
| Spent Bleach Clay (Maximum)    | 0.2% or 4 lbs per ton by weight of total product  |

## What is protein?

Multifunctional Molecules

| TABLE 101 - GRADES AND GRADE REQUIREMENTS FOR SOYBEANS |                                                                                                                                                                               |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Grade                                                  | Requirements                                                                                                                                                                  |
| Grade 1                                                | At least 50% of the sample must be composed of whole soybeans that are free from damage, decay, and foreign matter. The sample must contain at least 45% protein and 18% oil. |
| Grade 2                                                | At least 40% of the sample must be composed of whole soybeans that are free from damage, decay, and foreign matter. The sample must contain at least 40% protein and 16% oil. |
| Grade 3                                                | At least 30% of the sample must be composed of whole soybeans that are free from damage, decay, and foreign matter. The sample must contain at least 35% protein and 14% oil. |
| Grade 4                                                | At least 20% of the sample must be composed of whole soybeans that are free from damage, decay, and foreign matter. The sample must contain at least 30% protein and 12% oil. |

Maria Adkison MS. PhD.  
MAdkison@ussec.org  
Animal Utilization Lead - AMERICAS

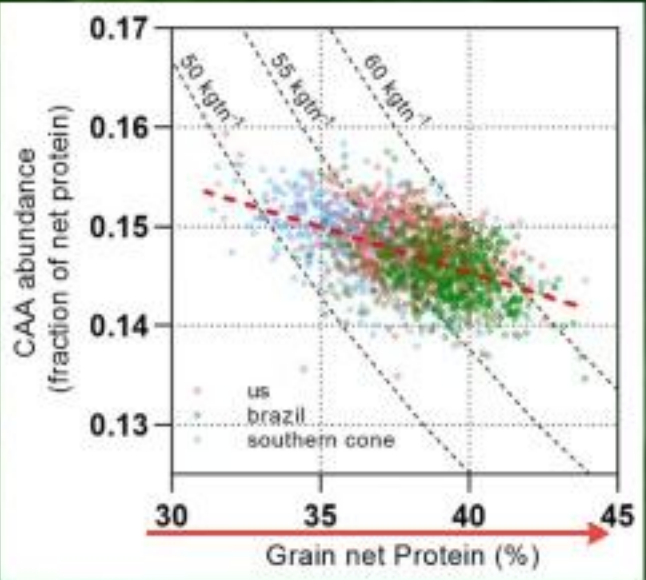
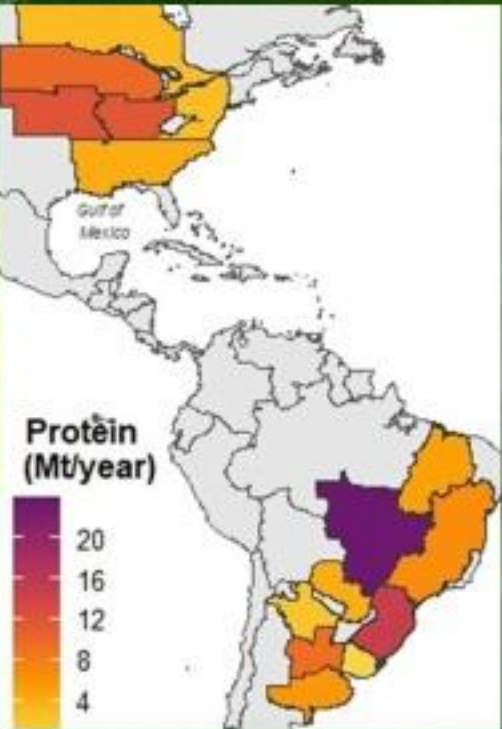


## United States Soybean Meal Quality Differentiators



Harvest and storage.  
Consistency (post-harvest and processing).  
Amino acids profile.  
Energy content.

## Origins





# What Evonik's Data Tells Us?

Tokyo, Japan  
November, 2025



**Section 2. MEAL QUALITY**

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|                                |                                                   |
|--------------------------------|---------------------------------------------------|
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| Spent Bleach Clay (Maximum)    | 0.2% or 4 lbs per ton by weight of total product  |

## What is protein?

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MAdkison@ussec.org  
Animal Utilization Lead - AMERICAS

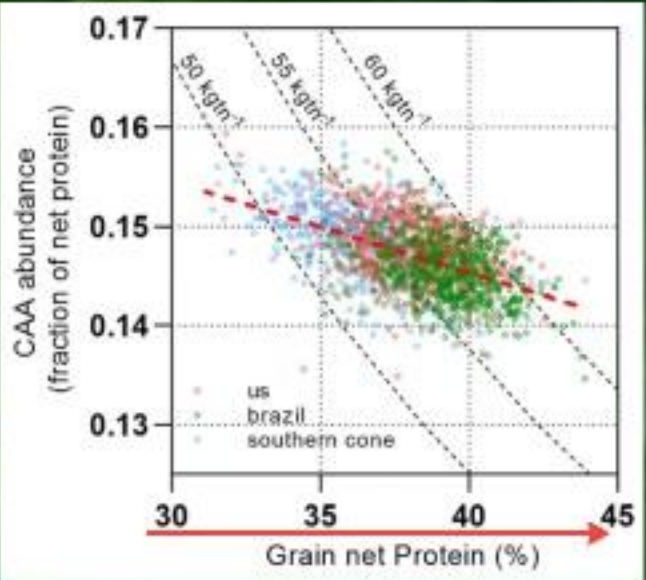
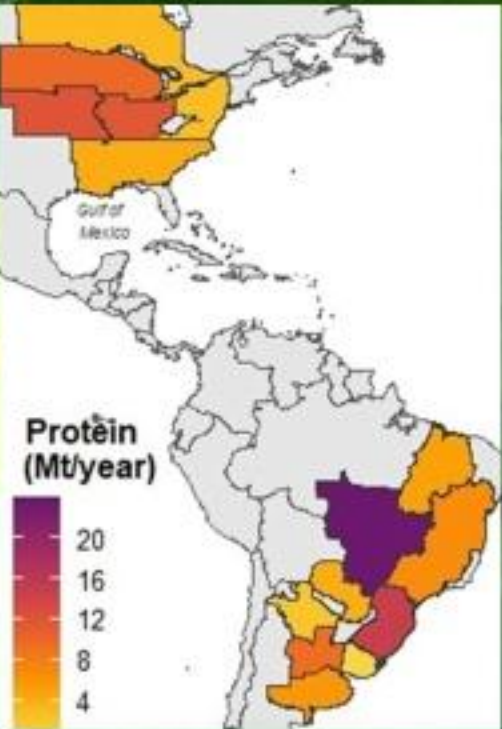


## United States Soybean Meal Quality Differentiators



Harvest and storage.  
Consistency (post-harvest and processing).  
Amino acids profile.  
Energy content.

## Origins





Tokyo, Japan  
November, 2025



## Bean Quality



## Regional Differences



## Soybean Meal Quality



## Supporting The Animal Protein Industry

[illegible]

## Section 2. MEAL QUALITY

The standard of quality shall be the soybean meal of fair merchantable quality conforming to standard definitions and standard specifications of the Association, as set forth in these Trading Rules. Analysis shall be made in accordance with methods approved by the American Oil Chemists' Society (AOCS) in effect as of the date of the contract. [See Appendix A, Section 2]

### Section 3. MEAL SPECIFICATIONS

All specifications can be modified based on agreements between buyer and seller.

Serious Meal (as defined above under Rule 2, Section I)

Typical soybean meal product specifications are as follows:

|                    |           |
|--------------------|-----------|
| Protein (Range)    | 44.0–49.0 |
| Fat                | 0.5 %     |
| Fiber (Maximum)    | 3.5 %     |
| Moisture (Maximum) | 12.0 %    |

In accordance with industry practices and as allowed under the 2024 AAFCO Official Publication, any-bone meal products may also contain the following:

|                             |                                                   |
|-----------------------------|---------------------------------------------------|
| Flexibility Agent (Maximum) | 0.5% or 10 lbs per ton by weight of total product |
| Spent Bleach Clay (Maximum) | 0.2% or 4 lbs per ton by weight of total product  |



## What is protein?



### Multifunctional Molecules



**Maria Adkison MS. PhD.**

MAdkison@ussec.org  
Animal Utilization Lead - AMERICAS

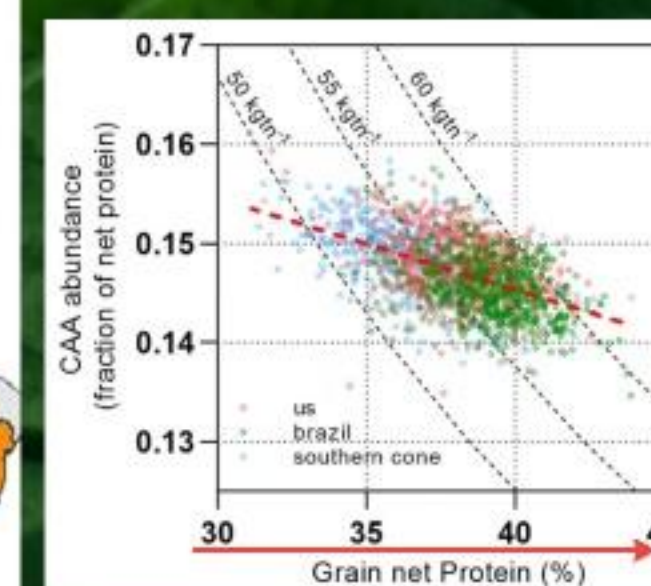
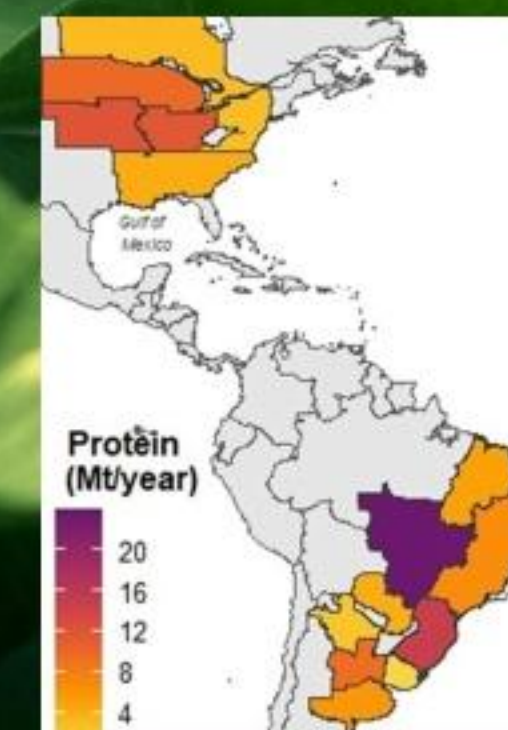


## United States Soybean Meal Quality Differentiators



- Harvest and storage.
- Consistency (post-harvest and processing).
- Amino acids profile.
- Energy content.

## Origins





Tokyo, Japan  
November, 2025



## Bean Quality



## Regional Differences



## Soybean Meal Quality



## Supporting The Animal Protein Industry

[illegible]

## Section 2. MEAL QUALITY

The standard of quality shall be the soybean meal of fair merchantable quality conforming to standard definitions and standard specifications of the Association, as set forth in these Trading Rules. Analysis shall be made in accordance with methods approved by the American Oil Chemists' Society (AOCS) in effect as of the date of the contract. [See Appendix A, Section 2.]

### Section 3. MEAL SPECIFICATIONS

All specifications can be modified based on agreements between buyer and seller.

Soybean Meal (as defined above under Rule 2, Section I)

Typical soybean meal product specifications are as follows:

|                    |           |
|--------------------|-----------|
| Protein (Range)    | 44.0–49.0 |
| Fat                | 0.5 %     |
| Fiber (Maximum)    | 3.5 %     |
| Moisture (Maximum) | 12.0 %    |

In accordance with industry practices and as allowed under the 2024 AAPCO Official Publication, soybean meal products may also contain the following:

|                             |                                                   |
|-----------------------------|---------------------------------------------------|
| Flexibility Agent (Maximum) | 0.5% or 10 lbs per ton by weight of total product |
| Spent Bleach Clay (Maximum) | 0.2% or 4 lbs per ton by weight of total product  |



## What is protein?



### Multifunctional Molecules



**Maria Adkison MS, PhD.**

MAdkison@ussec.org  
Animal Utilization Lead - AMERICAS

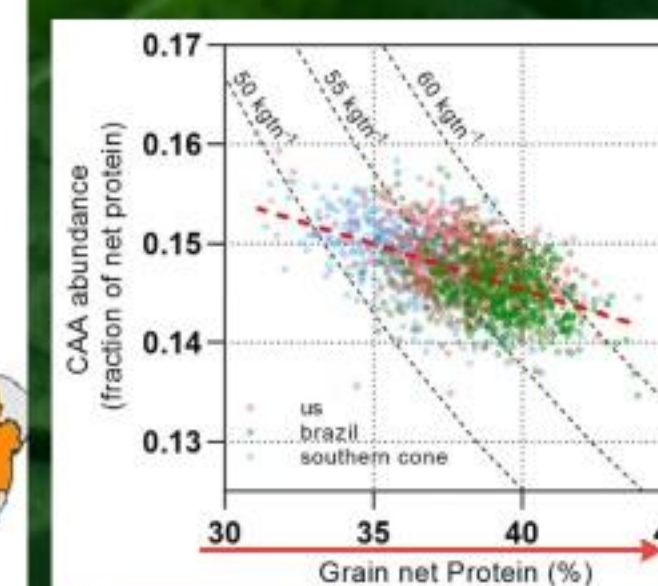
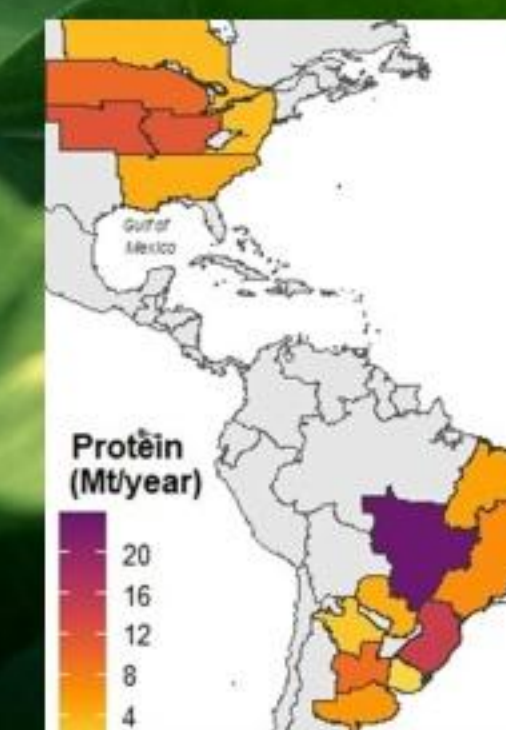


## United States Soybean Meal Quality Differentiators



- Harvest and storage.
- Consistency (post-harvest and processing).
- Amino acids profile.
- Energy content.

## Origins





Tokyo, Japan  
November, 2025



## Bean Quality



## Regional Differences



## Soybean Meal Quality



## Supporting The Animal Protein Industry

[illegible]

## Section 2. MEAL QUALITY

The standard of quality shall be the soybean meal of fair merchantable quality conforming to standard definitions and standard specifications of the Association, as set forth in these Trading Rules. Analysis shall be made in accordance with methods approved by the American Oil Chemists' Society (AOCS) in effect as of the date of the contract. [See Appendix A, Section 2]

### Section 3. MEAL SPECIFICATIONS

All specifications can be modified based on agreements between buyer and seller.

Soybean Meal (as defined above under Rule 2, Section I)

Typical soybean meal product specifications are as follows:

|                    |           |
|--------------------|-----------|
| Protein (Range)    | 44.0–49.0 |
| Fat                | 0.5 %     |
| Fiber (Maximum)    | 3.5 %     |
| Moisture (Maximum) | 12.0 %    |

In accordance with industry practices and as allowed under the 2024 AAFCO Official Publication, any-bone meal products may also contain the following:

|                              |                                                   |
|------------------------------|---------------------------------------------------|
| Flexibility Agents (Maximum) | 0.5% or 10 lbs per ton by weight of total product |
| Spent Bleach Clay (Maximum)  | 0.2% or 4 lbs per ton by weight of total product  |



## What is protein?



### Multifunctional Molecules



**Maria Adkison MS, PhD.**

MAdkison@ussec.org  
Animal Utilization Lead - AMERICAS

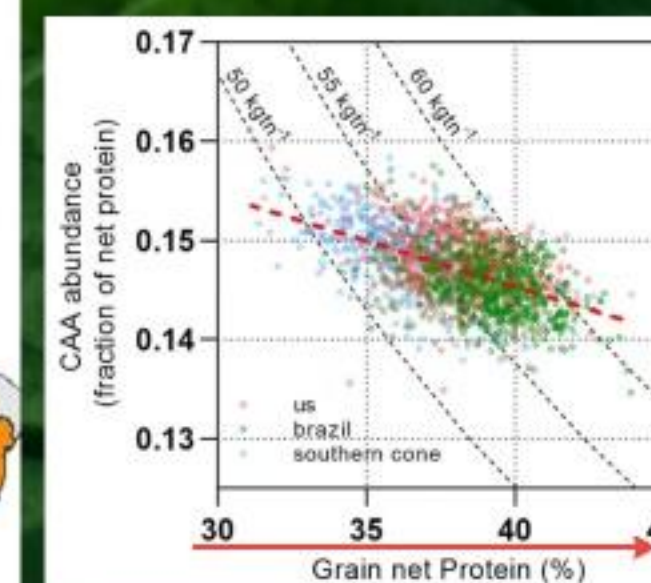
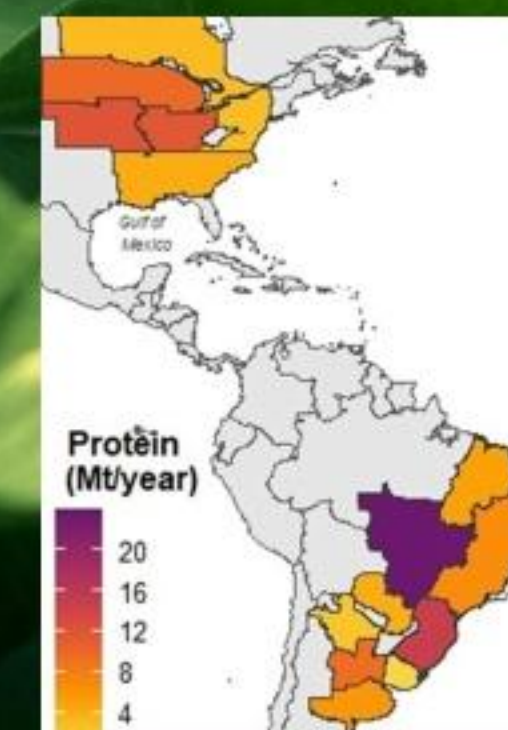


## United States Soybean Meal Quality Differentiators



- Harvest and storage.
- Consistency (post-harvest and processing).
- Amino acids profile.
- Energy content.

## Origins





# What Evonik's Data Tells Us?

Tokyo, Japan  
November, 2025



**Section 2. MEAL QUALITY**

The standard of quality shall be the soybean meal of fair merchantable quality conforming to standard definitions and standard specifications of the Association, as set forth in these Trading Rules. Analysis shall be made in accordance with methods approved by the American Oil Chemists' Society (AOCS) in effect as of the date of the contract. [See Appendix A, Section 2.]

**Section 3. MEAL SPECIFICATIONS**

All specifications can be modified based on agreements between buyer and seller.

Soybean Meal (as defined above under Rule 2, Section 1)

Typical soybean meal product specifications are as follows:

| Protein (Range)    | 44.0 – 49.0 % |
|--------------------|---------------|
| Fat                | 0.5 %         |
| Fiber (Maximum)    | 3.5 %         |
| Moisture (Maximum) | 12.0 %        |

In accordance with industry practices and as allowed under the 2024 AAFCO Official Publication, soybean meal products may also contain the following:

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Flavorability Agents (Maximum) | 0.5% or 10 lbs per ton by weight of total product |
| Spent Bleach Clay (Maximum)    | 0.2% or 4 lbs per ton by weight of total product  |

## What is protein?

**Multifunctional Molecules**

**TABLE 101 - GRADES AND GRADE REQUIREMENTS FOR SOYBEANS**

| Grade   | Minimum Content of |        | Grade   | Minimum Content of |        |
|---------|--------------------|--------|---------|--------------------|--------|
|         | Protein            | Oil    |         | Protein            | Oil    |
| Grade 1 | 44.0 %             | 18.0 % | Grade 2 | 42.0 %             | 16.0 % |
| Grade 3 | 40.0 %             | 14.0 % | Grade 4 | 38.0 %             | 12.0 % |

Maria Adkison MS. PhD.  
MAdkison@ussec.org  
Animal Utilization Lead - AMERICAS

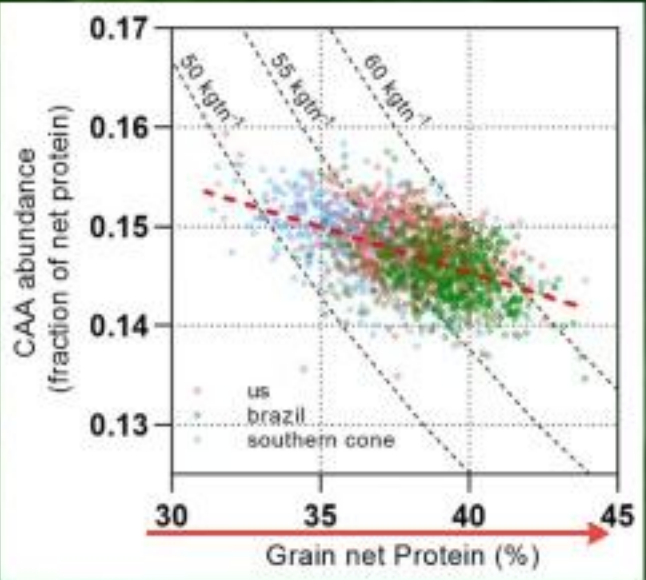
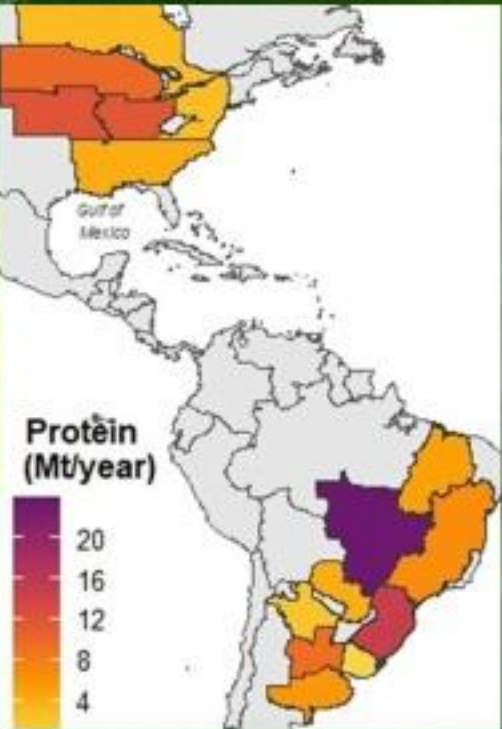


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Harvest and storage.  
Consistency (post-harvest and processing).  
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