

Poster Session 29
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Carcasses of Belgian Blue double muscle culled cows or growing fattening bulls: essential fatty acids content in 17 meat pieces

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Introduction

1. In human diets, meat is a large source of proteins, trace nutrients and minerals. There are also polyunsaturated fatty acids of the n-3 and n-6 series. In Western Europe, beef meat represents a rather large part of meat consumption.
2. The carcasses are cut in pieces for specific use in meal preparation. As opposed to the usual practices in other breeds, the carcasses of the Belgian Blue double muscles animals are cut according to the muscles.

Material et methods

- 32 culled cows
20 growing fattening bulls
from Belgian Blue breed.
- Fattened on a concentrate diet with or without linseeds.
- Carcasses cut according to muscles in a meat plant.
- 17 muscles corresponding to specific meat pieces
sampled and analysed for fatty acids.

Results

Relationships between the total fatty acids content and :

| | r^2 |
|-------------|-------|
| C18:1 n-9/7 | 0.98 |
| C18:2 n-6 | 0.01 |
| C18:3 n-3 | 0.28 |



Conclusion

Large variations were observed between muscles in terms of individual fatty acids content.

Results

Fatty acids composition in 17 muscles corresponding to specific meat pieces.

| Fatty acids (mg/100g fresh meat) | | | |
|----------------------------------|--------|--------|---------|
| | Mean | Min | Max |
| C14:0 | 12.59 | 3.50 | 35.06 |
| C15:0 | 2.69 | 1.14 | 6.32 |
| C16:0 | 168.64 | 80.45 | 363.86 |
| C17:0 | 7.63 | 3.44 | 17.11 |
| C18:0 | 115.68 | 59.68 | 228.60 |
| C20:0 | 1.00 | 0.46 | 2.00 |
| C14:1 | 2.86 | 0.65 | 7.93 |
| C16:1 | 21.01 | 7.10 | 53.23 |
| C18:1n7t | 21.44 | 8.11 | 50.46 |
| C18:1n9/7 | 246.41 | 108.43 | 561.56 |
| C18:2n-6 | 95.94 | 72.34 | 122.41 |
| C18:3n-6 | 0.56 | 0.38 | 0.67 |
| C20:2n-6 | 1.23 | 1.03 | 1.82 |
| C20:3n-6 | 7.32 | 5.55 | 8.83 |
| C20:4n-6 | 27.44 | 20.91 | 34.03 |
| C22:4n-6 | 2.11 | 1.74 | 2.78 |
| C18:3n-3 | 18.32 | 14.10 | 23.41 |
| C20:3n-3 | 1.90 | 0.83 | 2.91 |
| C20:5n-3 | 7.28 | 4.82 | 9.67 |
| C22:5n-3 | 13.65 | 10.51 | 16.74 |
| C22:6n-3 | 0.97 | 0.73 | 1.32 |
| c9t11CLA | 3.53 | 1.42 | 8.29 |
| Sum | 773.22 | 441.77 | 1495.82 |
| SFA | 308.23 | 151.95 | 652.95 |
| UFA | 464.99 | 289.82 | 842.87 |
| MUFA | 284.73 | 121.40 | 655.24 |
| PUFA | 180.26 | 157.16 | 225.85 |
| PUFA / SFA | 0.92 | 0.51 | 1.34 |
| Σn-6 | 134.60 | 115.39 | 169.24 |
| Σn-3 | 42.13 | 35.35 | 51.56 |
| n-6 / n-3 | 3.39 | 3.02 | 3.87 |