

Table S1. Lipid-class content¹ according to different intestinal segments and excreta in 11- and 35-day-old broiler chickens.

| Item | Intestinal Segment and Excreta ² | | | | | p-Values | |
|------------------------------------|---|--------------------|--------------------|--------------------|--------------------|----------|--------|
| | Upper Jejunum | Lower Jejunum | Upper Ileum | Lower Ileum | Excreta | SEM | P |
| 11-day-old broiler chickens | | | | | | | |
| TAG | 0.57 ^a | 0.41 ^b | 0.29 ^b | 0.31 ^b | 0.38 ^b | 0.039 | <0.001 |
| DAG | 2.12 ^a | 0.89 ^b | 0.65 ^b | 0.61 ^b | 0.96 ^b | 0.103 | <0.001 |
| MAG | 0.25 | 0.30 | 0.26 | 0.34 | 0.30 | 0.025 | 0.104 |
| FFA | 13.46 ^a | 6.23 ^b | 5.40 ^b | 5.22 ^b | 6.82 ^b | 0.677 | <0.001 |
| 35-day-old broiler chickens | | | | | | | |
| TAG | 0.24 ^a | 0.22 ^{ab} | 0.16 ^{bc} | 0.11 ^c | 0.17 ^{bc} | 0.016 | <0.001 |
| DAG | 1.47 ^a | 0.52 ^b | 0.19 ^c | 0.17 ^c | 0.16 ^c | 0.042 | <0.001 |
| MAG | 0.27 ^a | 0.22 ^{ab} | 0.15 ^c | 0.18 ^{bc} | 0.15 ^c | 0.016 | <0.001 |
| FFA | 7.96 ^a | 3.82 ^b | 1.80 ^c | 1.63 ^c | 1.67 ^c | 0.210 | <0.001 |

¹ Lipid-class concentration (mg/g)/Ti concentration (mg/g). ²Values are pooled means of 30 replicates from chickens fed diets at 11-day-old ($n = 150$) or 35-day-old ($n = 150$). TAG = triacylglycerols; DAG = diacylglycerols; MAG = monoacylglycerols; FFA = free fatty acids. SEM = standard error of the mean. p -Values were obtained from univariate ANOVA conducted for each age to study whether the intestinal segment (or excreta) affected the lipid-class content. a-c: means in a row not sharing a common letter are significantly different ($p < 0.05$).

Table S2. Lipid-class content in the lower ileum according to different fat sources in the diet in 11- and 35-day-old broiler chickens.

| Item | Dietary Treatments ¹ | | | | | | | | | | | | | | | | | | | |
|------|---------------------------------|--------|--------|------|------|-----------------------------|--------|--------|------|------|-------|--------|--------|--------|--------|--------|-------|--------|-------|--------|
| | 11-day-old broiler chickens | | | | | 35-day-old broiler chickens | | | | | P6 | | P4-SA2 | | P2-SA4 | | SA6 | | S6 | |
| | P6 | P4-SA2 | P2-SA4 | SA6 | S6 | P6 | P4-SA2 | P2-SA4 | SA6 | S6 | P6 | | P4-SA2 | | P2-SA4 | | SA6 | | S6 | |
| | | | | | | | | | | | SEM | P | SEM | P | SEM | P | SEM | P | SEM | P |
| TAG | 0.19 | 0.30 | 0.36 | 0.38 | 0.32 | 0.07 | 0.11 | 0.15 | 0.18 | 0.09 | 0.021 | 0.002 | 0.019 | <0.001 | 0.037 | 0.002 | 0.052 | 0.012 | 0.020 | <0.001 |
| DAG | 0.45 | 0.58 | 0.72 | 0.68 | 0.64 | 0.17 | 0.16 | 0.17 | 0.22 | 0.14 | 0.071 | 0.021 | 0.045 | <0.001 | 0.058 | <0.001 | 0.070 | <0.001 | 0.069 | <0.001 |
| MAG | 0.15 | 0.35 | 0.45 | 0.52 | 0.23 | 0.15 | 0.17 | 0.18 | 0.24 | 0.13 | 0.019 | 1.000 | 0.023 | <0.001 | 0.027 | <0.001 | 0.047 | 0.002 | 0.014 | <0.001 |
| FFA | 8.47 | 6.83 | 4.63 | 3.17 | 3.02 | 2.92 | 1.62 | 1.33 | 1.40 | 0.87 | 0.574 | <0.001 | 0.298 | <0.001 | 0.278 | <0.001 | 0.208 | <0.001 | 0.252 | <0.001 |

¹Values are pooled means of 6 replicates from chickens fed diets supplemented with 6% of palm oil (P), soybean acid oil (SA), soybean oil (S), or oil blends with 4% palm oil and 2% soybean acid oil (P4-SA2) or 2% palm oil and 4% soybean acid oil (P2-SA4). TAG = triacylglycerols; DAG = diacylglycerols; MAG = monoacylglycerols; FFA = free fatty acids. SEM = standard error of the mean. P = *p*-values, that were obtained from univariate ANOVA conducted for each dietary treatment to study whether the age affected the lipid-class content (*n* = 12). *p* < 0.05 was considered significant.

Table S3. Feed apparent metabolizable energy value and apparent fatty-acid digestibility coefficients in the lower ileum according to different fat sources in the diet in 11- and 35-day-old broiler chickens.

| Item | Dietary Treatments ¹ | | | | | | | | | | | | | | | | | | | |
|---------------------------|---------------------------------|--------|--------|------|------|-----------------------------|--------|--------|------|------|-------|--------|--------|--------|--------|--------|-------|--------|-------|--------|
| | 11-day-old broiler chickens | | | | | 35-day-old broiler chickens | | | | | | | | | | | | | | |
| | P6 | P4-SA2 | P2-SA4 | SA6 | S6 | P6 | P4-SA2 | P2-SA4 | SA6 | S6 | P6 | | P4-SA2 | | P2-SA4 | | SA6 | | S6 | |
| | SEM | P | SEM | P | SEM | P | SEM | P | SEM | P | SEM | P | SEM | P | SEM | P | SEM | P | SEM | P |
| AME, kcal/kg ² | 3014 | 3109 | 3001 | 3119 | 3348 | 3279 | 3324 | 3384 | 3274 | 3364 | 31.27 | <0.001 | 26.57 | <0.001 | 20.32 | <0.001 | 24.26 | 0.001 | 24.64 | 0.656 |
| <i>FA digestibility</i> | | | | | | | | | | | | | | | | | | | | |
| TFA | 0.62 | 0.65 | 0.72 | 0.80 | 0.79 | 0.84 | 0.88 | 0.91 | 0.91 | 0.92 | 0.022 | <0.001 | 0.016 | <0.001 | 0.019 | <0.001 | 0.017 | <0.001 | 0.011 | <0.001 |
| SFA | 0.49 | 0.46 | 0.51 | 0.55 | 0.69 | 0.78 | 0.85 | 0.89 | 0.85 | 0.90 | 0.026 | <0.001 | 0.021 | <0.001 | 0.034 | <0.001 | 0.028 | <0.001 | 0.011 | <0.001 |
| MUFA | 0.74 | 0.70 | 0.73 | 0.75 | 0.76 | 0.93 | 0.92 | 0.91 | 0.90 | 0.93 | 0.026 | <0.001 | 0.017 | <0.001 | 0.024 | <0.001 | 0.022 | <0.001 | 0.010 | <0.001 |
| PUFA | 0.75 | 0.81 | 0.85 | 0.90 | 0.83 | 0.83 | 0.88 | 0.92 | 0.93 | 0.93 | 0.028 | 0.056 | 0.013 | 0.002 | 0.017 | 0.014 | 0.016 | 0.234 | 0.011 | <0.001 |

¹Values are pooled means of 6 replicates from chickens fed diets supplemented with 6% of palm oil (P), soybean acid oil (SA), soybean oil (S), or oil blends with 4% palm oil and 2% soybean acid oil (P4-SA2) or 2% palm oil and 4% soybean acid oil (P2-SA4). AME = apparent metabolizable energy, TFA = total fatty acids, SFA = saturated fatty acids, MUFA = monounsaturated fatty acids, PUFA = polyunsaturated fatty acids, SEM = standard error of the mean. P = *p*-values, that were obtained from univariate ANOVA conducted for each dietary treatment to study whether the age affected the feed AME values, and the FA digestibility results (*n* = 12). *p* < 0.05 was considered significant.

Table S4. Contribution of each intestinal segment to FA absorption according to the age of the chicken.

| | Age (days) ¹ | | | |
|----------------------|-------------------------|-------|-------|-----------------|
| Item | 11 | 35 | SEM | <i>p</i> -Value |
| Upper jejunum | | | | |
| TFA | 54.96 | 49.83 | 4.198 | 0.347 |
| Palmitic | 34.24 | 49.36 | 4.736 | 0.019 |
| Stearic | - | - | - | - |
| Oleic | 47.89 | 64.45 | 3.731 | 0.002 |
| Linoleic | 54.93 | 44.55 | 4.999 | 0.124 |
| Lower jejunum | | | | |
| TFA | 42.50 | 33.04 | 4.347 | 0.117 |
| Palmitic | 51.40 | 34.38 | 4.286 | 0.005 |
| Stearic | 58.31 | 59.05 | 4.160 | 0.896 |
| Oleic | 40.16 | 24.26 | 3.448 | 0.001 |
| Linoleic | 41.80 | 33.51 | 4.697 | 0.206 |
| Upper ileum | | | | |
| TFA | 7.03 | 13.01 | 2.296 | 0.064 |
| Palmitic | 8.67 | 11.92 | 2.277 | 0.300 |
| Stearic | 16.17 | 27.34 | 2.880 | 0.007 |
| Oleic | 9.01 | 8.40 | 2.248 | 0.844 |
| Linoleic | 6.08 | 17.09 | 1.575 | <0.001 |
| Lower ileum | | | | |
| TFA | 10.02 | 4.11 | 0.720 | <0.001 |
| Palmitic | 10.76 | 4.34 | 1.045 | <0.001 |
| Stearic | 26.25 | 9.93 | 2.859 | <0.001 |
| Oleic | 9.17 | 2.89 | 0.871 | <0.001 |
| Linoleic | 8.39 | 4.84 | 0.790 | 0.002 |

¹Values are means of 30 replicates from chickens fed diets at 11-day-old or 35-day-old. TFA = total fatty acids. SEM = standard error of the mean. *p*-Values were obtained from univariate ANOVA conducted for each intestinal segment to study whether the age affected the FA absorption (*n* = 60). *p* < 0.05 was considered significant.