## Additional guidelines for style and units – Abbreviation

The use of defined abbreviations and acronyms by the authors, especially for treatments, should be avoided. When necessary, the abbreviation should be defined the first time it is used in the summary (abstract) and again in the body of the manuscript.

There is no need to define symbols for chemical elements or simple compounds. Units of weights and measures conform to international standards; therefore it is incorrect to create new abbreviations.

Abbreviations in the titles and tables should be avoided. Long terms or expressions that aesthetically do not fit as written in tables should be spelled out as footnote of the table or figure.

*Example*: "Average contents of dry matter (DM), crude protein (CP), acid detergent fiber (ADF), neutral detergent fiber (NDF), ether extract (EE), mineral matter (MM), organic matter (OM), total carbohydrates (TC), non-fiber carbohydrates (NFC), and total digestible nutrients (TDN) of the ingredients of the experimental diets."
*Suggestion*: "Chemical composition of the experimental diets"

Do not start a sentence with an abbreviation, acronym or symbol.
*Wrong*: "TC is a parameter that influences the final quality of the silage."
*Suggestion*: Total carbohydrate composition influences the final quality of the silage.

The use of abbreviations and acronyms in the summary should be limited. Too many abbreviations in the text makes it aesthetically cluttered and impairs the comprehension. The description by using abbreviations is appropriate for the author, but difficult to interpret for the reader, who will need to stop reading to consult the descriptions in the text.

Units of measure are not abbreviated when they follow a number in full at the beginning of a sentence.
*Wrong*: 2 L of water were added to the contents for analysis (...)
*Suggestion*: Two liters of water were added (...)

All abbreviations are written as singular, although they can be plural in the context (VFA instead of VFAs).
Abbreviations are generally not permitted in either the title or conclusions.

### 1. Abbreviations

AA = amino acid
AAI = essential amino acid(s)
ACTH = adrenocorticotropic hormone
ADDM = apparent digestibility of dry matter
ADF = acid detergent fiber
ADFI =average daily feed intake (differs from DMI)
ADG = average daily gain
ADIN = acid detergent insoluble nitrogen
ADL = acid detergent lignin
ADP = adenosine diphosphate
AI = artificial insemination
AIA = acid insoluble ash
AMP = adenosine monophosphate
ANOVA = analysis of variance
ATP = adenosine triphosphate
ATPase = adenosine triphosphatase
avg = average (use only in tables)
BCS = body condition score
BHBA = β-hydroxybutyrate
BLUE =best linear unbiased estimator
BLUP = best linear unbiased predictor
bp = base pair
BSA = bovine serum albumin
bST = bovine somatotropin
BTA = *Bos taurus* autosome
BUN = blood urea nitrogen
BW = body weight
CCW= cold carcass weight
cDNA = complementary deoxyribonucleic acid
CF = crude fiber
CI = confidence interval*
CLA = conjugated linoleic acid
CN = casein
CoA = coenzyme A
Co-EDTA = Cobalt ethylenediaminetetraacetate
CP = crude protein
cRNA = complementary ribonucleic acid
CV = coefficient of variation*
DCAD = dietary cation-anion difference
DE = digestible energy
df = degrees of freedom*
DFD(meat) = dark, firm, and dry
DIM = days in milk
DM = dry matter
DMI = dry matter intake
DNA = deoxyribonucleic acid
DNase = deoxyribonuclease
EBV = estimated breeding value
eCG = equine chorionic gonadotropin
ECM = energy-corrected milk
EDTA = ethylenediaminetetraacetic acid

EE = ether extract
EFA = essential fatty acid
EIA = enzymeimmunoassay
ELISA = enzyme-linked immunosorbent assay
EPD = expected progeny difference
ETA = estimated transmitting ability
FA = fatty acid
FCM = fat-corrected milk
FFA = free fatty acids
FSH = follicle-stimulating hormone
GAPDH = glyceraldehyde 3-phosphate dehydrogenase
GC-MS = gas chromatography-mass spectrometry
GE = gross energy
GH = growth hormone
GHRH = growth hormone-releasing hormone
GLC = gas-liquid chromatography
GLM = general linear model
GnRH = gonadotropin-releasing hormone
h2 = heritability*
hCG = human chorionic gonadotropin
HCW = hot carcass weight
HEPES = N-2-hydroxyethyl piperazine-N'-ethanesulfonic acid
HPLC = high performance (pressure) liquid chromatography
HTST = high temperature, short time
i.d. = inside diameter
i.m. = intramuscular
i.p. = intraperitoneal
i.v. = intravenous
IFN = interferon
Ig = immunoglobulin
IGF = insulin-like growth factor
IGFBP =insulin-like growth factor-binding protein
IL = interleukin
IMI = intramammary infection
IR = infrared reflectance
IVDMD = *in vitro* dry matter disappearance
LA = lactalbumin
LD50 = lethal dose 50%
LG = lactoglobulin
LH = luteinizing hormone
LHRH = luteinizing hormone-releasing hormone
Lig = lignin
LM = *longissimus*(*dorsi*) muscle
LPS = lipopolysaccharide
LSD = least significant difference*
LSM = least squares means*
mAb = monoclonal antibody
ME = metabolizable energy
MEn = metabolizable energy corrected for nitrogen balance
MIC = minimum inhibitory concentration
ML = maximum likelihood
MP = adenosine monophosphate
MP = metabolizable protein
mRNA = messenger ribonucleic acid
MS = mean square*
mtDNA = mitochondrial deoxyribonucleic acid
MUFA = monounsaturated fatty acids
MUN = milk urea nitrogen
n = number of samples*
NAD = nicotinamide adenine dinucleotide
NADH = reduced form of NAD
NADP = nicotinamide adenine dinucleotide phosphate
NADPH2 = reduced form of NADP
NAGase = N-acetyl-ß-D-glucosaminidase
NAN = nonammonia nitrogen
NDF = neutral detergent fiber
NE = net energy
NEFA = nonesterified fatty acids
NEg = net energy for gain
NEl = net energy for lactation
NEm = net energy for maintenance
NEm+p =net energy for maintenance and production
NEp = net energy for production
NFC = nonfiber carbohydrates
NPN = nonprotein nitrogen
NRC = National Research Council
NS = nonsignificant*
NSC = nonstructural carbohydrates
o.d. = outside diameter
OM = organic matter
PAGE = polyacrylamide gel electrophoresis
PBS = phosphate-buffered saline
PCR = polymerase chain reaction
pfu = plaque-forming unity
PG = prostaglandin
PGF2α = prostaglandin F2α
PMNL = polymorphonuclear neutrophilic leukocyte
PMSG = pregnant mare's serum gonadotropin
PSE = pale, soft, and exudative (meat)
PTA = predicted transmitting ability
PUFA = polyunsaturated fatty acids
QTL = quantitative trait loci
r = correlation coefficient*
$R^2$ = coefficient of determination*
RDP = rumen-degradable protein
REML = restricted maximum likelihood
RFLP = restriction fragment length polymorphism
RIA = radioimmunoassay
RNA = ribonucleic acid
RNase = ribonuclease
rRNA = ribosomal ribonucleic acid
RUP = rumen-undegradable protein
s.c. = subcutaneous
SCC = somatic cell count
SCM = solids-corrected milk

SD = standard deviation*
SDS = sodium dodecyl sulfate
SE = standard error*
SEM = standard error of the mean*
SFA = saturated fatty acids
SNF = solids-not-fat
SNP = single nucleotide polymorphism
sp., spp. = one species, several species
SPC = standard plate count
SS = sums of squares*
SSC = sus scrofa chromosome
SSPE = saline-sodium phosphate-edta buffer
ST = somatotropin
TCA = trichloroacetic acid
TDN = total digestible nutrients
TLC = thin layer chromatography
TMR = total mixed ration
Tris = tris(hydroxymethyl)aminomethane
TSAA = total sulfur amino acids
UF = ultrafiltration, ultrafiltered
UHT = ultra-high temperature
UV = ultraviolet
VFA = volatile fatty acids
wt = weight (use only in tables)

## 2. Physical units and other units

× = crossed with, times
°C = celsius (with number)
µ (prefix) = micro
µCi = microcurie
µE = micro-einstein
µF = microfarads
µg = microgram
µg $kg^{-1}$ = parts per billion
µL = microliter
amu = atomic mass unit
atm = atmosphere
bp = base pair
ca. = circa
cal = calorie
cc, $cm^3$ = cubic centimeter
cfu = colony-forming unit
Ci = curie
cm = centimeter
cM = centimorgan
$cm^2$ = centimeter, square
cP = centipoise
cpm = counts per minute
cps = counts per second
CPU = central processing unit
cu = cubic
D = density
d = day(s)
Da = dalton
dL = deciliter
Eq = equivalents
g = gram
*g* = gravity
h = hour(s)
ha = hectare
Hz = cycles per second (hertz)
IU = international unit
J = joule
K = Kelvin
k (prefix) = kilo
kb = kilobase
Kbp = kilobase pair
KB = kilobyte
kcal = kilocalorie
keV = kiloelectron volts
kg = kilogram
kPa = kilopascal
KU = Klett units
L = liter
ln = logarithm (natural)
log10 = logarithm (base 10)
lx = lux
M (prefix) = mega
m (prefix) = milli
m = meter
*M* = molar (concentration)
mg $kg^{-1}$ = parts per million
min = minute(s)
mL = milliliter
mM = millimolar (concentration)
mm Hg = millimeters of mercury
$mm^3$ = cubic millimeter
mmol = millimole (mass)
mo = month(s)
mol = mole (number, mass)
n (prefix)= nano
N = Newton
*N* = normal (concentration)
ng = nanogram
p (prefix) = pico
P = probability
Pa = Pascal
pfu = plaque-forming unit
pg = picogram
rpm = revolutions per minute
RU = rennet activity unit
s = second(s)
U = unit
use lx = foot-candle

use mmol $kg^{-1}$ = osmolality
V = volt
vol = volume
vol $vol^{-1}$ (use parenthetically) = volume/volume
W = Watt
wk = week(s)
wt $vol^{-1}$ (use parenthetically) = weight/volume
yr = year(s)
Time: The 24h clock should be used, e.g.: 14.00 hours; 14.30 hours