



AWIC Database Search Operator Reference Guide

This reference guide provides information on how to use different search operators in a variety of databases. The search operator examples below will help you find literature on animal welfare and animal use alternatives.

Animal Welfare Information Center, National Agricultural Library, (<https://www.nal.usda.gov/programs/awic>)

	Proximity Operators: Character/letter combinations that find one search term within a certain number of words from another.
PubMed	"word1 word2"[Field Name:~#]. # indicates number of words between word1 and word2. Can search Title or Title/Abstract fields. Ex: " mice enrichment "[Title/Abstract:~4] results in "We also confirmed such enrichment using mice ..."
Web of Science	NEAR/# (words will appear in any order) # indicates maximum number of words between first and second terms Ex: " non*invasive " NEAR/8 " urine collection " results in "A noninvasive urine collection device for female cattle" ----- SAME: Finds two words in one search field. Functions like the Boolean operator, AND. Ex: " Agricultural Research Service " SAME Beltsville results in "Dr Douglass R. Miller, ex- Agricultural Research Service , U.S. Department of Agriculture, Beltsville , Maryland."
Scopus	PRE/# ('PRE' means 'precedes' which means the first word will appear before the second) Ex: " Social housing " PRE/5 rats results in "Go long(-itudinal)! Social housing protects working memory in rats " ----- W/# (Within) (words appear in any order) Ex: " Social housing " W/5 rats results in "50-kHz chirping (laughter?) in response to conditioned and unconditioned tickle-induced reward in rats : Effects of social housing and genetic variables"
EBSCO	N# (Near) (words will appear in any order) Ex: " cage* " N8 rodent* results in "Variation in bacterial contamination of microisolation cage tops according to rodent species and housing system" ----- W# (Within) (first word appears before the second) Ex: " cage* " W8 rodent* results in "Effect of cage -change frequency on rodent breeding performance"
ProQuest	NEAR/# or N/# (words will appear in any order) Ex: monkey NEAR/5 stud* results in "Eight-year toxicity study in monkeys and reproduction studies in rats and rabbits treated with probucol." ----- PRE/# or P/# ('PRE' means 'precedes' which means the first word will appear before the second) Ex: monkey PRE/5 stud* results in "Monoclonal Antibodies Against Zika Show Promise in Monkey Study "



Boolean Operators:

AND, OR, NOT connect search terms. AND returns both terms, OR returns either, NOT excludes terms.

Truncation/Wildcard Operators:

Characters such as the asterisk (*), question mark (?), and hash/pound sign (#) can be added to the root of a word in order to find variants of that term. In some databases, truncation operators can be used within words.

PubMed/ Medline

AND, OR, NOT
Ex: mice **AND** "Three Rs"
Ex: housing **OR** cage*
Any word after NOT is excluded from results. NOT can help exclude irrelevant results.

Asterisk (*) = zero or more characters.
Note: Truncation operators can only be used at the end of words/phrases. They cannot be used in proximity statements. Ex: "**ferret* housing**"[Title:~4] will ignore the asterisk.
Ex: **enrich*** can result in the terms **enrich**, **enriched**, **enriching**, and **enrichment**

Web of Science

AND, OR, NOT
Ex: ferret* **AND** influenza
Ex: "animal welfare" **OR** "environmental enrichment"
Ex: mannequin* **NOT** cloth*

Asterisk (*) = zero or more characters. Question mark (?) = any single character.
Ex: **characteri?e** results in **characterize** and **characterise**

Dollar sign (\$) = zero or one character(s)
Ex: "**animal behavio\$r**" results in **animal behavior** and **animal behaviour**

Scopus

AND, OR, AND NOT
Note: Only Scopus uses **AND NOT** instead of **NOT**
Ex: pigs **AND NOT** guinea

Asterisk (*) = zero or more characters.
Ex: **man*in** results in terms such as **manikin** and **mannequin**

EBSCO

AND, OR, NOT
Ex: bulls **NOT** (elephant* OR shark* OR frog*)

Asterisk (*) = zero or more characters.
Ex: **imag*** results in **image**, **images**, **imaging**

Pound sign (#) stands for zero or one character(s).
Ex: "**animal behavio#r**" results in **animal behavior** and **animal behaviour**

Question mark (?) = any single (one) character.
Ex: **reali?e** results in **realize** and **realise**

ProQuest

AND, OR, NOT
("animal welfare" **OR** "humane handling") **AND** ("live*stock" **OR** "agricultural animal*") **NOT** horse*

Question mark (?) = any single character
Ex: **authori?e** results in **authorize** and **authorise**

Asterisk (*) = zero or more characters.
Ex: **be*t** results in **bet**, **beat**, **beet**, **belt**, **best**, **Bert**, and **best**