



## 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>)

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



### 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**