

Animal Welfare Act and Regulations

<https://www.nal.usda.gov/awic/animal-welfare-act>

Improved Standards for Laboratory Animals Act:

Food Security Act of 1985

Subtitle F, Animal Welfare, Public Law 99-198

Sec. 2143 (a)(3)[A - B]

Information Requirements of the Animal

Welfare Act: Code of Federal Regulations

Title 9, Chapter 1, Subtitle A, Animal Welfare

Sec. 2.31(d-e)

Alternatives (often referred to as the 3Rs) refer to the Reduction, Refinement, and Replacement of animal use in research, testing, and teaching. The Animal Welfare Act and the accompanying regulations emphasize the minimization of animal pain and distress which can be addressed via the consideration of alternatives and alternative methods.



Who We Are

USDA's Animal Welfare Information Center (AWIC) is located at the National Agricultural Library (NAL).

AWIC provides information for improved animal care and use in research, testing, and teaching.

AWIC's mission was provided in the 1985 amendments to the Animal Welfare Act [7 USC 2142, Sec. 13, Subsection e]:

The Secretary [of Agriculture] shall establish an information service at the National Agricultural Library. Such service shall, in cooperation with the National Library of Medicine, provide information-

- *pertinent to employee training;*
- *which could prevent unintended duplication of animal experimentation as determined by the needs of the research facility; and*
- *on improved methods of animal experimentation, including methods which could--*
 - *reduce or replace animal use; and*
 - *minimize pain and distress to animals, such as anesthetic and analgesic procedures.*

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United States Department of Agriculture

National Agricultural Library



ALTERNATIVES AND THE ANIMAL WELFARE ACT

<https://www.nal.usda.gov/awic>

Conducting Literature Searches: Considering 3Rs Alternatives

Where to start?

1: Identify key terms and concepts based on the protocol.

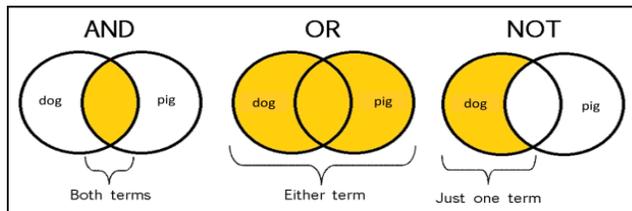
Gather information about:

- the area of study, including species and organ systems
- important acronyms and international spellings
- names of hormones, enzymes, trade names
- possible alternatives and other prominent scientists in the field

2: Develop a search strategy and be prepared to refine it.

The search strategy consists of 3 types of terms:

- Scientific terms related to the research protocol
- Alternatives (3Rs) terms that are relevant to the protocol
- Search logic: Boolean operators, limits, truncations, etc.

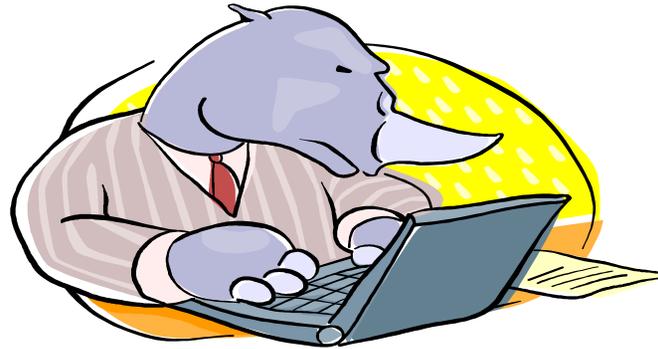


3Rs Keyword* Examples:

<https://www.nal.usda.gov/awic/3Rs-terms-examples>

- analgesic or analgesia or “pain reduction”
- anesthesia or anaesthesia or anasthesia (spelling)
- housing or facility or caging
- welfare or wellbeing or pain or distress
- technique or procedure or method or assay
- vitro or culture or artificial
- virtual or simulation or digital or interactive
- mannequin or manikin or model
- endpoint or biomarker or noninvasive

**Consider synonyms, acronyms, alternate spellings and variations of the words (such as tenses).*



3: Select appropriate information sources.

Ask your library to find out what databases are available at your institution.

AWIC provides links to useful databases here: <https://www.nal.usda.gov/awic/databases>.

They are listed according to subject area including:

- **Biological and Biomedical**
- **Toxicology and Mandatory/Regulatory Testing**
- **Teaching and Education**
- **Federally-funded Research**
- **Technology**
- **Veterinary Medicine**

Selected 3Rs Web Resources*

- Altbib: <https://toxnet.nlm.nih.gov/altbib.html>
- Altweb: <http://altweb.jhsph.edu/>
- AWI Enrichment and Refinement Databases: <https://awionline.org/content/enrichment-and-refinement-databases>
- ICCVAM: <https://ntp.niehs.nih.gov/go/regaccept>
- NC3Rs: <https://www.nc3rs.org.uk/>
- NORINA: <https://norecopa.no/norina>
- Procedures with Care: <http://www.procedureswithcare.org.uk>
- 3Rs Guide: <https://norecopa.no/3r-guide-database>

** Each resource contains unique information. Know what you are searching.*

***Mention of commercial databases or external organizations does not constitute endorsement or imply preference by the U.S. Department of Agriculture.*

4: Conduct the search, evaluate, and review relevant citations.

Principal Investigators (PIs) should

- Complete and review the search before completing the protocol.
- Assess and evaluate the alternatives possibilities and be prepared to support their use or non-use in writing.
- Provide a written narrative to the IACUC. When reporting the results of a literature search, it is helpful to provide a copy of the search strategy, databases searched, years covered by the search, and date the search was performed.
- Keep a copy of the search strategy, databases searched, and years of search. TIP: Set up alerts for searches in commonly used databases.

5: Tips for IACUCs

- Ensure protocol forms are clear about information required from PIs.
- Make scientists aware of available information resources and how to access them.
- If a literature search is provided, check for **RED FLAGS** including:
 - Search completed at the last minute.
 - Only 1 database searched.
 - Terms only for painful aspects.
 - The term “alternative” used alone.
 - Keywords listed not relevant to protocol.
 - Keywords and concepts linked in an incorrect manner (e.g. wrong Boolean operators).
 - Search doesn’t cover adequate time period.