

Chapter 11

Manuscripts

Articles, manuscripts, and publications documenting ARS research efforts and their publication in the Department and Agency series should be prepared and submitted in accordance with procedures.

- Acronyms: See [Chapter 22](#) for a comprehensive list of commonly used acronyms.
- References: [P&P 150.1-ARS](#) – Dissemination of Public Information by ARS
[P&P 151.1-ARS](#) – Publishing (Print and Electronic)
[P&P 152.1-ARS](#) – Procedures for Publishing Manuscripts and Abstracts with Non-USDA Publishers (Outside Publishing)
[P&P 152.2-ARS](#) – Authorship of Research and Technical Reports and Publications
[NPA PM-08-001](#) – ARS-115 and Posting Copies of Approved Manuscripts/Publications to Websites
[NPA PM-05-001](#) – Foreign Correspondence and Reprint Requests from Restricted Countries
Agricultural Research Information System Online Handbook ([Chapter 5](#))
- Cross References: [Chapter 12](#) – Patents and Technology Transfer
[Chapter 15](#) – Records Management
[Chapter 16](#) – Agricultural Research Information System (ARIS)
- Web Sites: Agricultural Research Information System (ARIS) Online Handbook
<http://www.npstaff.ars.usda.gov/ARIS/Manual/>
AFM Policies & Procedures (P&P) and Manuals (M)
<http://www.afm.ars.usda.gov/ppweb/>
NPA Policy Memorandums (PMs)
<http://www.ars.usda.gov/Main/docs.htm?docid=16552>
REE Forms (requires login)
<http://reeforms.ars.usda.gov/reeforms/>
- Forms: [ARS 533](#) – Manuscript Peer Review Form
- Attachment 1: Non-ARS Author Clearance
Attachment 2: Guidelines for Requesting Journal Codes
Attachment 3: Cheat Sheet for Journal Code Numbers for 115 Entries in ARIS
Attachment 4: Natural Resources Research Update (NRRU)

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NPA ARS-115 Guidelines

ARS-115 record retention:

- The ARS Files Management Guide requires retention for five (5) years. However, the NPA Area Office advises retaining the ARS-115 Official file for fifteen (15) years for the following reasons:
 - Length of the research projects (not usually limited to five years, on-going for many years).
 - Questions that might arise about research results/validity.
 - Prominent Issues research subjects.
 - Questions regarding Intellectual Property Rights.
- ARS-115's will be retained in the ARIS system for indefinitely starting in FY-2006 and can be retrieved through the 115 History report module.
- Responsibility for retaining ARS-115 Official Files belongs to the Unit Secretary/ARIS Operator (it's the same process/procedure as retaining the official records for Travel; Time & Attendance; etc.).
- NPA Centers (Clay Center, Fargo, Fort Collins-National Center for Genetic Resources Preservation (NCGRP), Grand Forks, and Manhattan) will determine how they want to handle retention files for the Official ARS-115 records.

What should be in the Official ARS-115 file?

- The ARS-115 ARIS printout, with all applicable line management approval signatures (print a new/Official ARIS document after entering the publication date and citation information; or any time a revision/modification is made to the 115).
- For 115's coded as Prominent Issues: retain, or add, the original signature page of line management approvals to the 115 file.
- All Non-ARS Author clearances and/or CRADA Cooperator clearances (hard copies, whether received by E-mail or via a memo/letter).
- All ARS-533 Manuscript Peer Review forms.
- Copy of the manuscript (until the publication reprints are received).
- Copy of the final publication from the Journal or Equivalent.

Compliance monitoring:

- ARS-115 records will be identified from the Active 115 section of ARIS.
- Each year at ARMPS review, a member of the ARMPS review team will request randomly selected ARS-115 files from the Unit/Center Secretary to monitor for compliance.
- ARS-115's will be monitored for the following items:
 - ARS-533 peer review forms.
 - Non-ARS author clearances.
 - CRADA Cooperator notification and clearances.
 - Copy of the manuscript submitted to the journal and/or the final publication, in order to match authorship listings to the official ARS-115 ARIS printout. (ARS scientists cannot leave Non-ARS authors, such as university scientists, off of the ARS-115

authorship list just because they don't want to obtain clearances. The 115 will be compared to the final publication to verify the authorship list matches.)

ARS-533 Manuscript Peer Review forms:

- ARS-533's are required from two or more peers from outside the author(s) research unit.
- At least one peer must be in a location other than that of the author(s).
- The authors are strongly encouraged to obtain a review from a scientist who is not employed by ARS.
- Responses to peer review comments must be addressed by the ARS scientist, either on the ARS-533 form or in a separate memo.
- Retain the ARS-533 peer review forms, and a copy of the manuscript, until it is published.

CRADA Cooperator notification and clearances:

- CRADA Cooperator notification (60 day review period before the manuscript is submitted to the journal) is a legal requirement written into the CRADA Agreement language. The CRADA Cooperator review ensures the manuscript does not contain any Cooperator Confidential Information. The ARS scientist must send a cover letter to the Cooperator with the draft manuscript stating that the Cooperator has 60 days to review and comment on the draft manuscript.
- CRADA Cooperator clearances must be obtained prior to submission of the manuscript to the journal or equivalent and **prior to entering the ARS-115 into ARIS.**
- Verbal clearances are **not** authorized/acceptable.
- Mail/Fax a copy of the notification letter/clearance authorization from the CRADA Cooperator to the NPA's OTT Technology Transfer Coordinator (Dr. Bryan Kaphammer/Fax (970)492-7023 or bryan.kaphammer@ars.usda.gov). Retain the original in the Official ARS-115 file.

Submitter:

- Must be the RL, or a Cat. 1, 4, or 6 (does not have to be the RL — this is at the Unit/Center discretion).

Contact Scientist:

- Must be a Permanent Federal employee of the Unit (Unit/Center designates the contact scientist-who will respond to the request for a copy of the publication, or for more information).
- Cannot be a post doc (because they are not considered permanent ARS employees).
- Contact scientist or person: if necessary, this can be modified at a later date if the person listed retires or relocates (you don't have to revise it, use best judgment).

Remarks tab/block:

- **Please utilize the Remarks block.** Required field by NPS and is used to enter the Meeting name, location, and dates when using the generic Meeting Abstract/Symposium journal or equivalent; to enter the name of the student, university, and other relevant information when entering a PhD Dissertation, etc.
- Please utilize the Remarks tab/block whenever you add the journal submission and/or acceptance date, publication date, citation, or make other revisions to the 115 record.
 - **Example #1:** Adding the publication date and citation (ARIS Operator's name or initials, and the date).
 - **Example #2:** Revising the author list (ARIS Operator's name or initials, and the date).
- Use the Remarks block to list the Non-ARS Author and/or CRADA Cooperator clearances.
 - **Example #1:** Clearance from Lee Sommers, via e-mail dated 05/15/xx. (ARIS Operator's name or initials, and the date).
 - **Example #2:** Copy of ms submitted to CRADA Cooperator & NPA TTC, 06/23/03. Clearance from Sonny Lubick, via letter dated 08/17/03. Copy faxed to NPA TTC on 08/18/03. (ARIS Operator's name or initials, and the date).

Non-ARS Author (university personnel, private companies or organizations, CRADA partners) Clearances:

- Non-ARS Author clearances **must be obtained prior to submission** of the manuscript to the journal or equivalent, **and prior to entering the ARS-115 into ARIS.**
- Verbal clearances are not authorized/acceptable.
- Clearances must be obtained from each Non-ARS Author listed on the publication.
- If Non-ARS Authors are listed on the final publication, then the ARS-115 authorship listing must match the authorship listing on the final publication.
- Deleting or leaving Non-ARS Authors off of the authorship list in the ARIS system does not absolve the ARS scientist from obtaining written clearances from all Non-ARS authors listed on the final publication.

Confidential until published: *Yes or No question*

- This pertains to the requirements of the Journal or Equivalent and is usually found on the journal/publication web site. Some require the research not be reported/presented elsewhere until the journal's publication is released.
- When requesting a new journal code to be added to ARIS, please indicate Yes or No on the Confidential Until Published requirement. New journal codes are added by HQ staff, and will not be added without indicating journal requirements. HQ requires the name of the journal, the publisher (for a book), address, phone number, web address, and confidentiality information (give them as much as you can).

TEKTRAN

PURPOSE:

The ARS-115/TEKTRAN system is designed to ensure that public disclosure of information by ARS scientists is timely (i.e., precedes actual journal publication as an added value to our customers), consistent with ARS mission and policy, and is evaluated for High Profile Topic issues and intellectual property protection (IP). OTT is the final step in the approval process before records are released to TEKTRAN.

PROBLEMS, which occurred prior to the ARS-115 revisions:

A cooperator and stakeholder of ARS noted some shortcomings to the system (prior to the recent revisions to the 115 system). The cooperator contended that one particular TEKTRAN submission failed to present accurate information from a manuscript that was senior authored by him. The subsequent release of information from the ARS-115 to TEKTRAN was not cleared by the cooperator and could have resulted in premature release of private sector confidential information related to intellectual property (IP).

Hold from TEKTRAN until Published: *Yes or No question*

- Check the Yes box if the 115 should be held until **after** the manuscript is published.
- The 115 will not go to TEKTRAN until the publication date has been entered, and the publication date exceeds the current date.
- If the 115 has Patent related information, the 115 will be held from TEKTRAN until 18 months after publication. (Other conditions may apply. OTT monitors the 115's and will determine if/when a 115 can go to TEKTRAN.)

Hold from TEKTRAN Permanently: *Yes or No question*

- The scientist can make a request to withhold from TEKTRAN permanently (usually occurs when the manuscript deals with High Profile Topic issues, Patents, or CRADA related research). Guidance can be obtained from the Associate Area Director; the Assistant Area Director (High Profile Topics); or the NPA TTC (CRADA related research or Licenses, Inventions, Patents) when the scientist is unsure how to answer.

Patent Information: Due to patent potential, is retention of intellectual property rights desired? *Yes or No question*

- If Yes is checked, the ARS scientist must send a copy of the manuscript to the Patent Advisor.
- If the 115 author answers YES, but cannot answer the questions on the Patent/Invention Disclosure Form, then he/she should check "NO" on the Patent/Intellectual Property Rights question.
- If the scientist isn't sure, please refer them to the NPA TTC (Dr. Bryan Kaphammer, 970-492-7028).

Changes implemented:

The changes to the 115 entries require:

- The Research Leader and scientists to review submissions carefully for High Profile Topic issues.
- Certify that cooperators have reviewed the abstract and interpretive summary, and have approved the release of their names and affiliations.
- The changes were also designed to assist line management in confirming timeliness of publications as part of the annual performance appraisal of scientists.
- A new field has been added to the 115 in ARIS, “Date Submitted to Journal.” This is a required field entry for the NPA, and will be tied to the annual performance appraisal of scientists.
- The “Date Submitted to Journal” field has also been added to all the Detail by Author reports.
- A new report has been added to the 115 Authors Report. It is called “Detail by Author-Citation.” This report gives everything that is in the original “Detail by Author” report, but also gives the citation, if the citation has been filled in on the 115.

Tip shared by an NPA secretary:

Go to the site (<http://www.nal.usda.gov>) AGRICOLA Journal Article Citation Index (right side) search for ms or the author, and it will bring everything up and it can be checked.

Questions:

Is a 115 needed if a paper is being presented at a meeting, but there won't be a publication of meeting abstracts?

No. An ARS-115 is required whenever an employee is to present a paper, talk, poster, etc., at any scientific meeting, *specifically in which a publication such as an abstract and/or proceedings are to be published.*

However, the RL/LD/CD does have the discretion to require an ARS-115 for Abstracts if he/she feels the subject matter warrants an ARIS entry.

Are Non-ARS author clearances required if a paper is being presented at a meeting, but there won't be a publication of meeting abstracts?

No. *However, the scientist must be aware that he/she is not to present controversial data; preliminary data that has yet to be peer reviewed; or High Profile Topic data.* If the presentation is going to include any of the above, then an ARS-115 must be entered, and all applicable clearance approvals obtained, **prior** to making the oral presentation. **The ARS scientist must also wait for line management authorizations before presenting his/her talk.**

Non-ARS Author's approval for release of information to the Public

Non-ARS Author's approval for release of information to the Public		
Name:(Last, First MI)		
Employer:		
21 chr abbreviation		
Title:		
Journal:		
Interpretive Summary:		
Technical Abstract:		
	<input type="checkbox"/> Approved	
Signature	<input type="checkbox"/> Disapproved	Date

Fax to:

or mail to:

Guidelines for Requesting Journal Codes

Use of Generic Journal Codes:

1. If, at the time of submitting an ARS-115, the actual name of the publication has not been determined or is not known, use the appropriate generic journal code as listed below. Describe the publication in the Remarks section of the ARS-115.
2. When a publication of some type results, and the actual name of the publication is known, request the specific journal code, and add it at the same time you add the acceptance date to the ARS-115.
3. The generic journal codes are confidentiality “No.” **When the SY, organization, or publisher requires confidentiality until published and a generic code is used**, check the “Hold from Tektran until Published” box. When you add the publication date and citation, remove the check.

Currently Available Generic Journal Codes:

1. Book Chapter – 03708
2. Meeting Abstract – 04466
3. Electronic Publication – 06844
4. Agricultural Experiment Station Publication – 08969
5. Extension Publication – 00868
6. Extension Reports – 00869
7. Invention Reports – 05684
8. Government Publication/Report – 90148
9. Trade Journal Publication – 90147
10. Review Article – 90146
11. Popular Publication – 01630
12. Laboratory Publication – 01630
13. ARS Publication – 00050

Information to be provided when Requesting Journal Codes:

1. Name of Publication (do not abbreviate)
2. Publication Type (Journal, Book chapter, etc.)
3. Confidentiality Status Yes or No
4. Publisher, when known (helps distinguish between similar journals, titles, etc.)

Journal Codes for Recurring Meetings, Conferences, Symposiums, etc.

To avoid adding journal codes every year for recurring meetings, symposiums, conferences, etc., the dates of meetings are included in the title (i.e., 2004 Forage Society Meeting Proceedings will be “Forage Society Meeting Proceedings” and the “7th International Congress of Plant Pathologists” will be “International Congress of Plant Pathologists”). The meeting dates, number, etc. can be identified in the Remarks section of the ARS-115.

Cheat Sheet for Journal Code Numbers for 115 entries in ARIS

JOURNAL/EQUIVALENT NAME	CODE #	
Agricultural Experiment Station Publication	08969	
Agricultural Research Service Station Bulletin	03291	
Agriculture Handbook	03233	
ARS Publication	00050	
Book Chapter	03708	> Use Remarks block to enter the name of the Book, Publisher, etc.
CAB International of the United Kingdom	88929	
CD ROM	04317	
Complete Book	04321	
Cornell University Press	00625	
Electronic Publication	06844	
Experiment Station Bulletins	00856	
Extension Circular	00865	
Extension Conference Proceedings	00871	
Extension Fact Sheets	00867	
Extension Publications	00868	
Extension Reports	00869	
Extension Service Bulletin	00870	
Germplasm Release	05659	
Government Publication/Report	90148	
Home Page	04862	
Internet Web Page	06536	
Invention Report	05684	
Kluwer Academic Press	89305	
Laboratory Publication	01630	
London Publishing House	89015	
Meeting Abstract	04466	
Meeting Proceedings	89158	> Use Remarks block to enter the name, location, & meeting dates.
National Academy Press	01831	
Oxford University Press	90014	
PhD Dissertation	05272	> Use Remarks block to enter the name of the Student, University, etc.
Popular Publication	90145	
Review Article	90146	
Science and Technical Review	02299	
Software and User Manual Public Release	89180	
State University Ag Report	88941	> Use Remarks block to enter name of the University, Report #, etc.
Survey Notes	04795	
Symposium Proceedings	02978	
Symposium Series	02755	> Use Remarks block to enter the name, location, & meeting dates.
Trade Journal Publication	90147	
Workshop Proceedings	88918	
World Wide Web	04864	

NOTE: Utilize the Remarks block as much as possible/relevant; particularly when using the generic codes as shown above (meeting abstract/proceedings; Extension pubs; PhD, etc.). The generic Journal Codes are confidentiality No by default. If the scientist, organization, or publisher requires confidentiality until published and a generic code is used, check (T) the “Hold from Tektran until Published” box. When you add the publication date and citation, remove the check (T).

Natural Resources Research Update Standard Operating Procedure

Introduction

The primary purpose of the Natural Resources Research Update (NRRU) is to transfer the latest ARS research results to our customers. This will allow ARS' customers to implement ARS' technology such that it positively impacts their individual missions and operations. The secondary purpose of the Natural Resources Research Update is to allow ARS to get feedback from its customers about the impact of ARS' technology.

The target audience for the Natural Resources Research Updates is private, state and federal government land managers and conservationists, farmers and ranchers, and research organizations. Therefore, the updates need to be written in such a way as to be useful to this audience. Although the general public will have access to the updates, they are not the target audience, so the updates do not need to be written for laymen. The format of the updates is at the discretion of the Research Leader (RL) and scientist, but each update should explain the technology, what it should/can be used for, who should consider implementing it, and how it should be implemented. Furthermore, to promote scientific accuracy, the data and information in the update must only come from the scientist(s) peer-reviewed manuscripts and contain proper references to those manuscripts. Since some journals may be reluctant to re-publish data that has already been published in a Natural Resources Research Update, this restriction to peer-reviewed data will ensure the updates do not interfere with the scientist's ability to publish the data in peer-reviewed journals.

Research Update Preparation

Updates are prepared when the scientists and RL believe the information in one or more peer reviewed publications would be of benefit to their customers and stakeholders. The ARS scientist prepares the update and pastes it into the Natural Resources Research Update form (Appendix A).

The update will include:

- The scientists' names and location(s)
- Title
- Abstract (which will be identical to that in the 115)
- Text which explains the technology, what it should/can be used for, who should consider implementing it, and how it should be implemented. To promote scientific accuracy, the data and information in the update must only come from the scientist(s) peer-reviewed manuscripts and contain proper references to those manuscripts.

Research Update Approval

The scientist completes the ARIS-115 for the Natural Resources Research Update by following the instructions in the NRRU ARIS-115 Instructions. The Natural Resources Research Update will be approved through the ARS-115 system to the RL/LD/CD level. If the 115 is coded as a high priority project approval will also be done at the Area Office level.

Research Update Review

Once the Natural Resources Update 115 has been approved, the scientist sends the MS Word version of the update to the Natural Resources Research Update Manager, Bryan Kaphammer (bryan.kaphammer@ars.usda.gov ph: 970-492-7028).

The Natural Resources Research Update Manager sends the complete research update to the Technology Transfer Coordinator (TTC) in the scientist's Area.

The TTC will send any questions or comments to the Update Manager (bryan.kaphammer@ars.usda.gov ph: 970-492-7028) who will pass them on to the RL and scientists. The RL and scientist will address the comments/suggestions. If no questions/comments are received after ten business days, the Update Manager will distribute the update to subscribers.

Distribution of Research Update

1. The Natural Resources Research Update Manager will enter the update into the system, give it a unique number (which will be the same as the ARS-115 log number), and confirm the 115 has been approved.
2. The Natural Resources Research Update Manager sends a PDF of the update to subscribers. The update is also sent to the Area Office and the NPL.
3. The Natural Resources Research Update Manager archives the update on the NRRU web site.

Subscribing to Research Updates

To sign up for the updates, subscribers go to <http://www.ars.usda.gov/npa/nrru> and complete the subscribers form. This form is sent to Bryan Kaphammer (bryan.kaphammer@ars.usda.gov, ph: 970-492-7028) who will enter the subscriber's email address into the appropriate group(s).

Anyone with a valid email address can subscribe to the Natural Resources Research Update (with the exception of persons from countries still on the banned country list).

Soliciting Feedback From Subscribers

Periodically or at the request of a scientist, RL/LD/CD, AD, or NPL the Natural Resources Research Update Manager will email subscribers in a particular keyword category and ask for feed back as to the value of the updates. The Manager will ask for descriptions of specific use of specific technology and the value or impact that technology had on their operation. This information will be sent to the requester, the scientist, and the NPL.

Subscribers will also be encouraged to provide feedback about an individual research update by simply responding to the email containing the update.

Questions?

Send any questions or comments to NRRU.update@ars.usda.gov or call Bryan Kaphammer (bryan.kaphammer@ars.usda.gov ph: 970-492-7028).



United States Department of Agriculture
Research, Education and Economics



Agricultural Research Service
Date:

Natural Resources Research Update

ARS would like your feedback as to the value of this technical update. You can provide feedback about this specific update by responding to this email or send your comments to NRRU.update@ars.usda.gov and refer to technical update number:

Title:

Contributing Scientists:

Location:

Abstract:

Text:

As the principal in-house research arm of the U.S. Department of Agriculture, the Agricultural Research Service has a mission to: Conduct research to develop and transfer solutions to agricultural problems of high national priority and provide information access and dissemination to ensure high-quality, safe food, and other agricultural products, assess the nutritional needs of Americans, sustain a competitive agricultural economy, enhance the natural resource base and the environment, and provide economic opportunities for rural citizens, communities, and society as a whole.

The U. S. Department Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance. (Not all prohibited bases apply to all programs) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Process/procedures for preparing & submitting a Natural Resources Research Update(NRRU)

- ARS SYs working in the National Programs for Natural Resources research who wish to submit a Natural Resources Research Update (NRRU) need to contact Dr. Bryan Kaphammer for information and instruction.
- Dr. Kaphammer is the OTT/Technology Transfer Coordinator for the Northern and Southern Plains Areas and Manager of the NRRU web site. He can be reached at bryan.kaphammer@ars.usda.gov or 970-492-7023.
- At the present time, the updates are provided for Natural Resources related programs and projects only.
- ARIS data entry instructions and screen prints are on pages 3-6.
- The SY prepares a draft of the NRRU and forwards it via e-mail to Dr. Kaphammer for his review and comment.
- Dr. Kaphammer reviews the draft NRRU and provides e-mail authorization to proceed with entering the NRRU into ARIS.
- The SY forwards an electronic copy (Word document) of the approved NRRU release to the Unit ARIS Operator to use for the data entry into the ARS-115 system. An example of the NRRU is on the next page (page 2).
- The SY preparing and submitting the NRRU will be the Submitter and Contact scientist, and the only ARS author listed on the 115 NRRU entries.
- The date the NRRU draft is e-mailed to Dr. Kaphammer will be the date to enter into the Date Submitted to Journal block.
- The Acceptance and Publication Dates will be the same date for each block and will be the date on the e-mail Dr. Kaphammer sends to the ARS SY with instructions to proceed with entering the 115 into ARIS.
- The 115 Log Number will also be used as the NRRU reference number. The Unit does not need to maintain a separate list or data base.
- This will ensure the 115 aligns with the official posting date of the NRRU to NRRU.update@ars.usda.gov
- *Publications contributing to the NRRU Release* must be listed at the end of the Technical Abstract narrative. See the screen prints on pages 5-6 for details.
- Listing the *Publications contributing to the NRRU Release* serve the following purpose:
 - Provides additional authority and credibility by documenting the peer reviewed manuscripts supporting the research addressed in the NRRU release.
 - Allows the NRRU subscriber to pursue additional information on the subject matter without incurring delays in waiting for responses from the ARS scientist(s) listed on the NRRU.



United States Department of Agriculture
Research, Education and Economics



Agricultural Research Service

Natural Resources Research Update

ARS would like your feedback as to the value of this technical update. You can provide feedback about this specific update by responding to this email or send your comments to NRRU.update@ars.usda.gov and refer to technical update number:

ARS GIVES NO WARRANTIES OR GUARANTEES, EXPRESSED OR IMPLIED, FOR THE INFORMATION IN THIS UPDATE, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Title: Spatial and temporal variability affect soil microorganism activity in high production corn systems.

Contributing Scientists: Brian Wienhold

Location: Agroecosystem Management Research Unit, Lincoln, NE

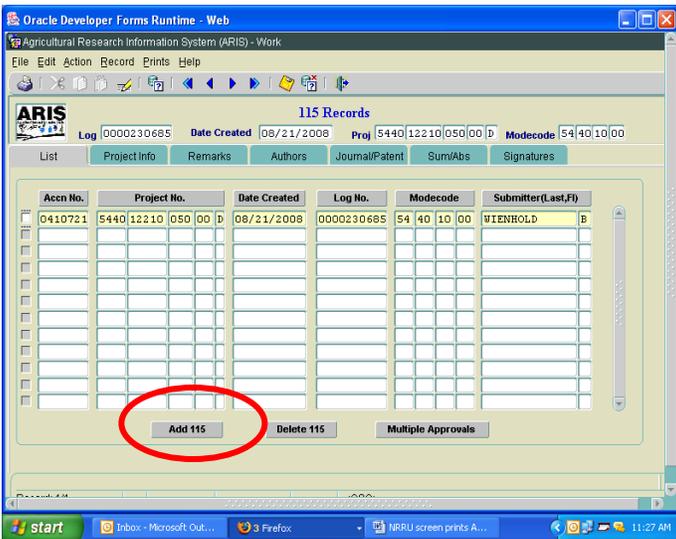
Text: Soil microorganisms are involved in residue decomposition, nutrient cycling, and plant health. Understanding the spatial and temporal variability in microbe activity and the role of soil management is essential for maintaining the soil biota. A field study demonstrated that soil exhibited spatial variation in inherent properties (e.g. depth of topsoil, clay content) but soil microorganism did not. Soil microorganisms were associated with soil organic C fractions and these associations were most likely related to the role of microorganisms in soil aggregation (Grigera et al., 2006). The distribution of soil microorganisms is influenced by management practices such as in-row cultivation where redistribution of crop residue creates an enhanced zone for soil microorganisms when residue is concentrated in the row. This enhanced zone may benefit the crop as nutrients in the residue become available (Grigera et al., 2007a). Mycorrhizal fungi positively affect plant growth and play an important role in P nutrition. Mycorrhizal fungi may benefit high production corn crops by facilitating P uptake during the reproductive stages (Grigera 2007b). The increase in mycorrhizal growth during the reproductive stages of corn were associated with an increase in the hyphal network and not increased sporulation (Grigera 2007c). Producers should incorporate management practices such as reduced tillage and residue retention that are least detrimental to the soil biota. As fertilizer prices increase selecting varieties that are susceptible to mycorrhizal infection may improve fertilizer use efficiency.

Grigera, M.S., R.A. Drijber, K.M. Eskridge, and B.J. Wienhold. 2006. Soil microbial biomass relationships with organic matter fractions in a Nebraska corn field mapped using apparent electrical conductivity. *Soil Science Society of America Journal* 70:1480-1488.

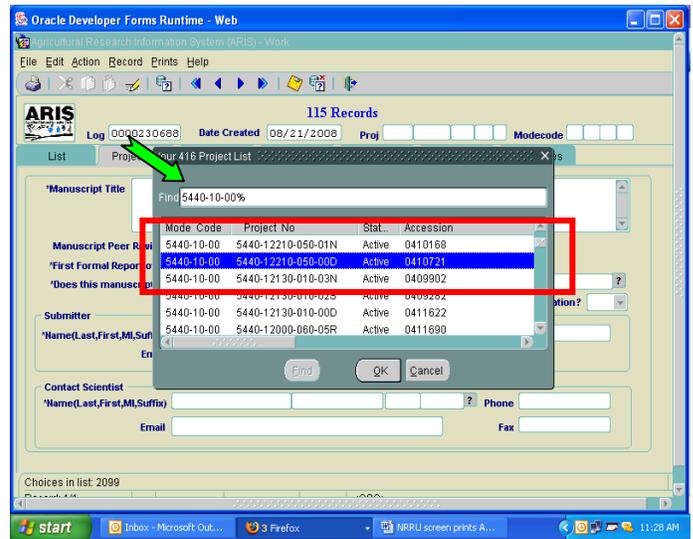
Grigera, M.S., R.A. Drijber, and B.J. Wienhold. 2007a. Redistribution of crop residues during row cultivation creates a biologically enhanced environment for soil microorganisms. *Soil and Tillage Research* 94:550-554.

Grigera, M.S., R.A. Drijber, and B.J. Wienhold. 2007b. Increased abundance of arbuscular mycorrhizal fungi in soil coincides with the reproductive stages of maize. *Soil Biology and Biochemistry* 39:1401-1409.

Grigera, M.S., Drijber, R.A., Shores-Morrow, R.H., and Wienhold, B.J. 2007c. Distribution of Arbuscular Mycorrhizal Biomarker C16:1*cis*11 Among Neutral-, Glyco-, and Phospho-Lipids Extracted from Soil During the Reproductive Growth of Corn. *Soil Biology and Biochemistry* 39:1589-1596.

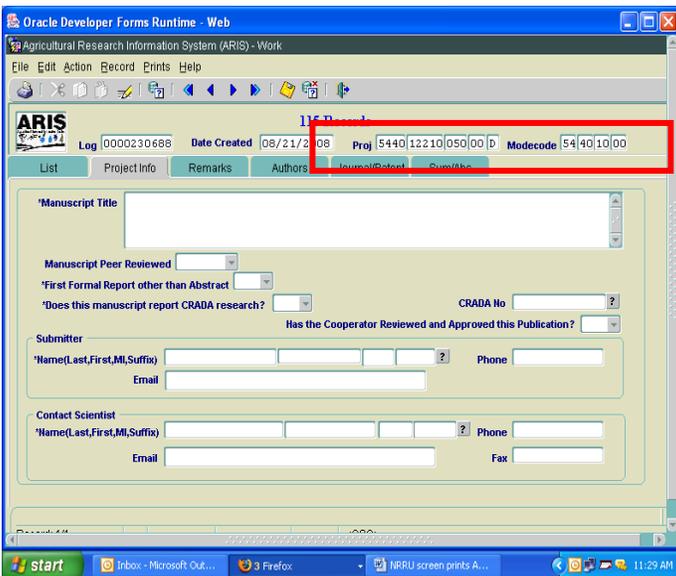


- Click on the **Add 115** button

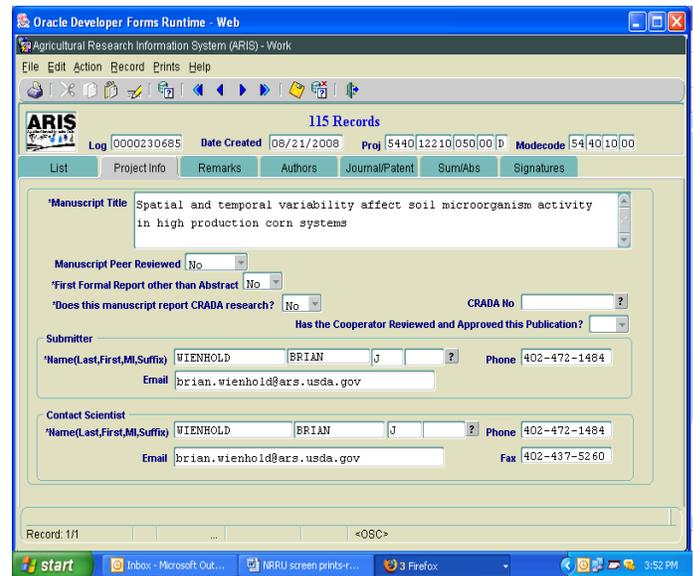


➔ Type the full mode code in front of the % symbol (use dashes, e.g., 5440-10-00)

- Click on the **Find** button
- Scroll down and highlight the Project Number the NRRU will be applied to
- Click on the **OK** button

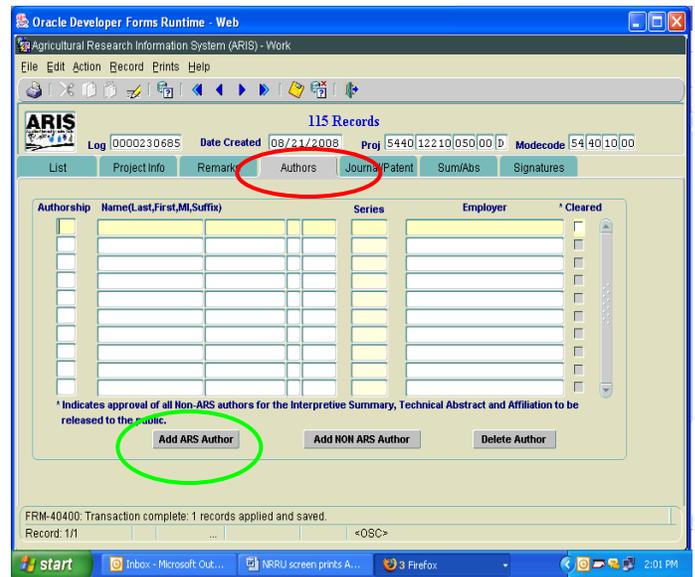
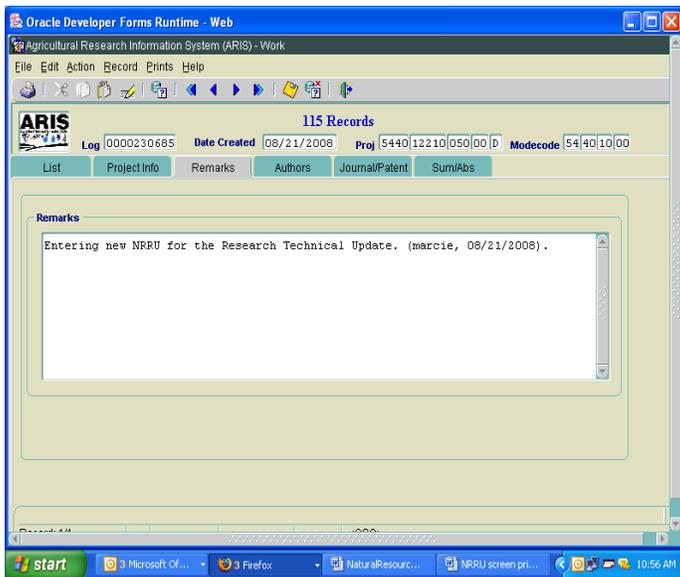


- The Project Number and Mode Code cannot be revised or corrected once they are selected and accepted.
- Check the Project Number and Mode Code entries in the upper right corner of the screen to ensure accuracy (red rectangle).
- If the Project Number and/or Mode Code are **not** correct: Exit out and respond No when the query appears for saving the entry.
- Start over by clicking on the **Add 115** button.



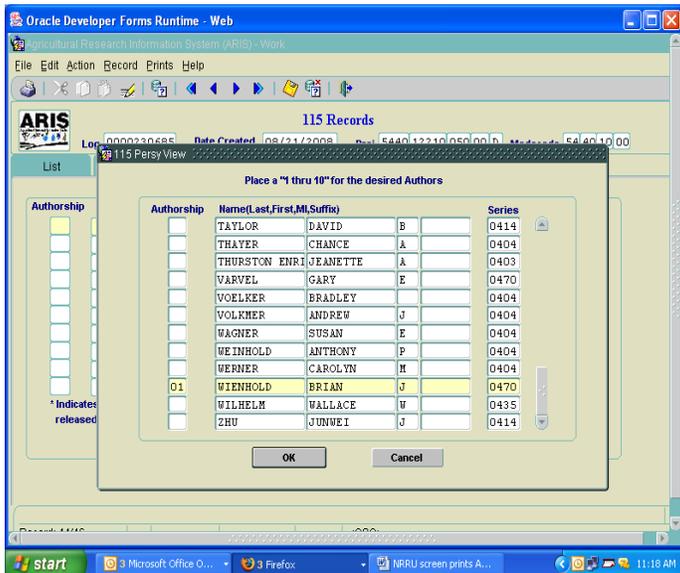
If the Project Number and Mode Code are correct:

- Enter the Title in the Manuscript Title block
- Select No from the **▼ drop down menu buttons** for the Manuscript Peer Reviewed, 1st Formal Report, and Report CRADA research blocks.
- Enter the Submitter and Contact information; include the Email address in each block.
- Click on the **Save icon**

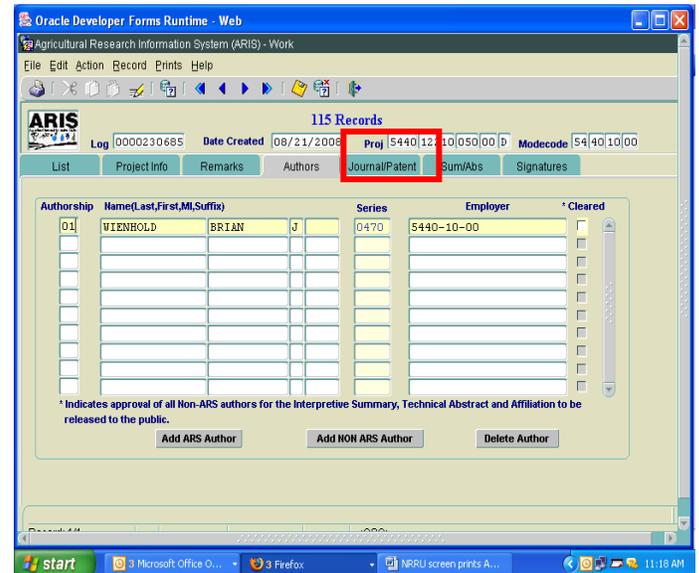


- Click on the **Remarks** tab and enter information relevant to the NRRU, etc.
- Click on the **Save** icon.

- Click on the **Authors** tab.
- Click on the **Add ARS Author** button.

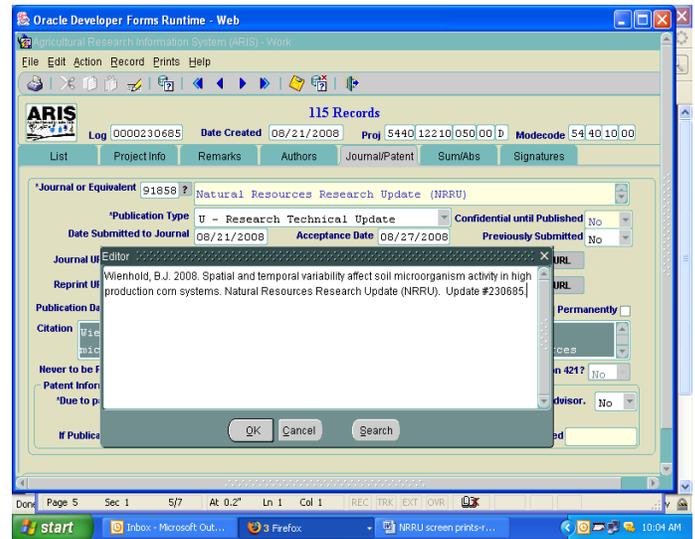
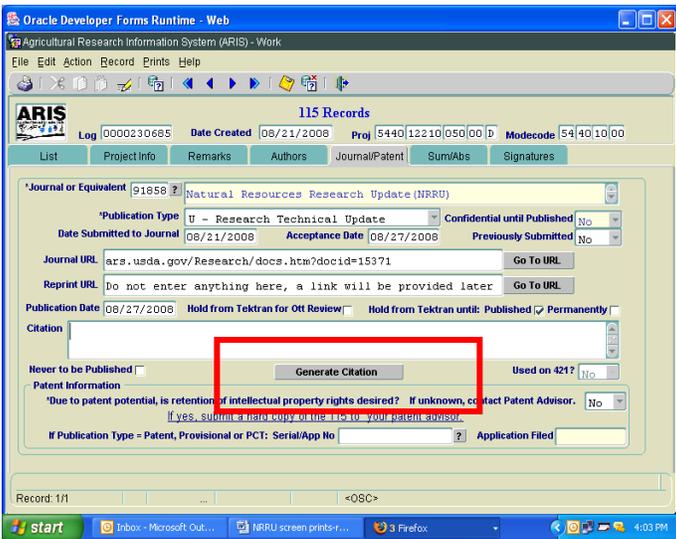


- A list of the employees in the Unit will appear.
- **Highlight the name of the SY submitting the NRRU and enter 01 in the Authorship column to the left of the name.**
- Click on the **OK** button.



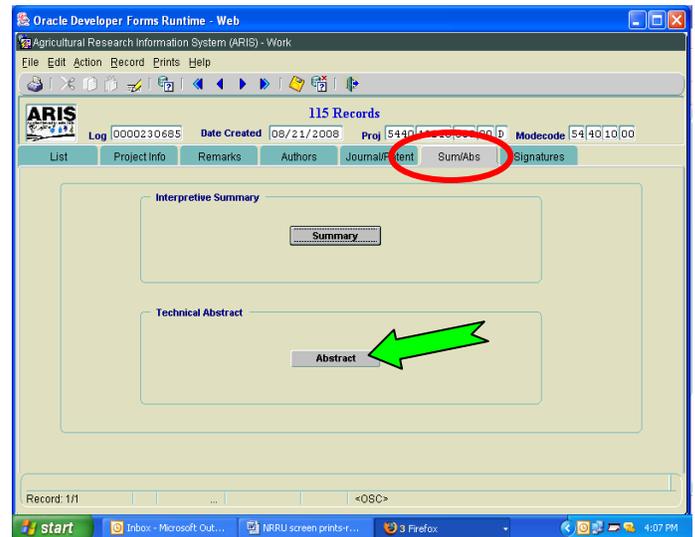
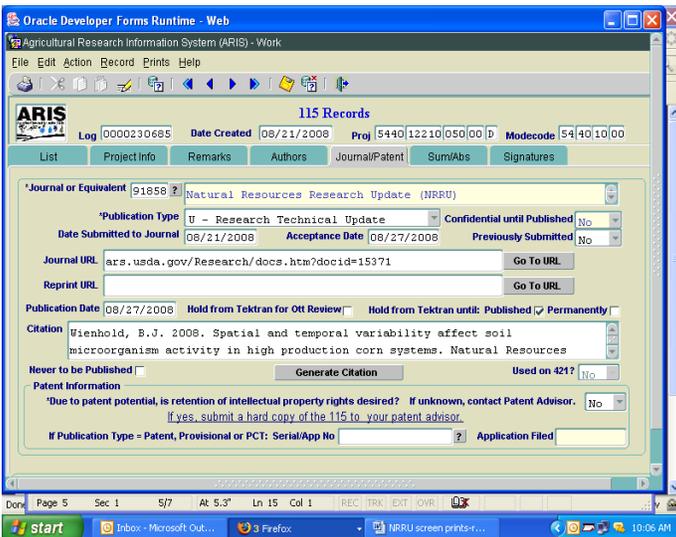
- The screen above appears listing the selected ARS author (should be the same as the Submitter and Contact scientist entered earlier).
- Double-check the entry to ensure accuracy. **If incorrect:** click on the Delete Author button and then click on the Add ARS Author button and select/enter the correct ARS author.
- Click on the **Save** icon.
- Click on the **Journal/Patent** tab (red rectangle).

Reminder: Only one author is listed and it is always the ARS SY submitting the NRRU.



- **Journal or Equivalent code for the NRRU:** 91858
- **Publication Type:** Select U = Research Technical Update
- **Date Submitted to Journal:** Use the date on the e-mail for submitting the draft NRRU to Dr. Kaphammer for his review
- **Previously Submitted:** No
- **Acceptance Date and Publication Date blocks:** Both dates will be the same and the date on the e-mail Dr. Kaphammer sends to the ARS SY (providing instructions to proceed with entering the 115) should be the date used in both blocks.
- **Journal URL:** ars.usda.gov/Research/docs.htm?docid=15371
- **Reprint URL:** Leave blank until notification providing a specific link to the pdf posting of the NRRU is received
- **Hold from Tektran until Published block:** Always enter a ✓ mark. This will ensure the 115 aligns with the official posting date of the NRRU to NRRU.update@ars.usda.gov
- **Patent Information:** No

- Click on the **Generate Citation button** (red rectangle as shown on the above left screen print).
- Double-click within the Citation block to open the Editor screen (the Editor screen is shown above).
- Enter **Update #....** at the end of the Citation as shown above. The NRRU Update # is the ARS-115 log number. The NRRU posted to the website and the ARS-115 will have the same log number. This will eliminate any confusion, the need for maintaining a separate list or database, and allow for consistent tracking and documentation.
- Click on the **OK button** at the bottom of the screen.

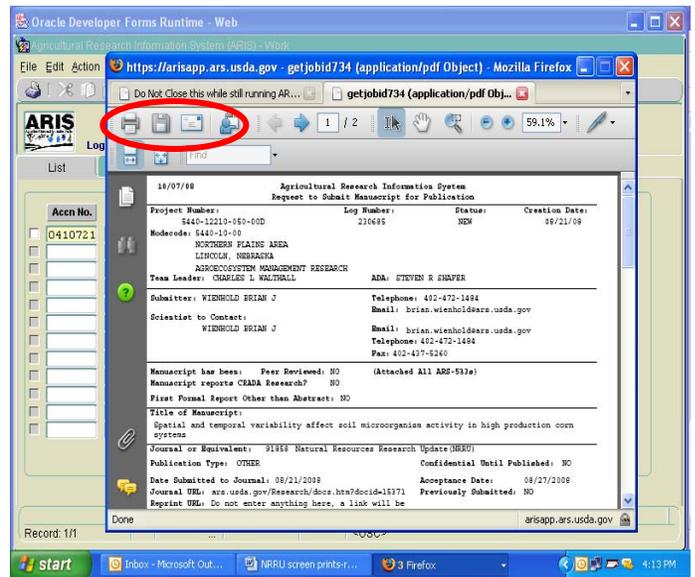
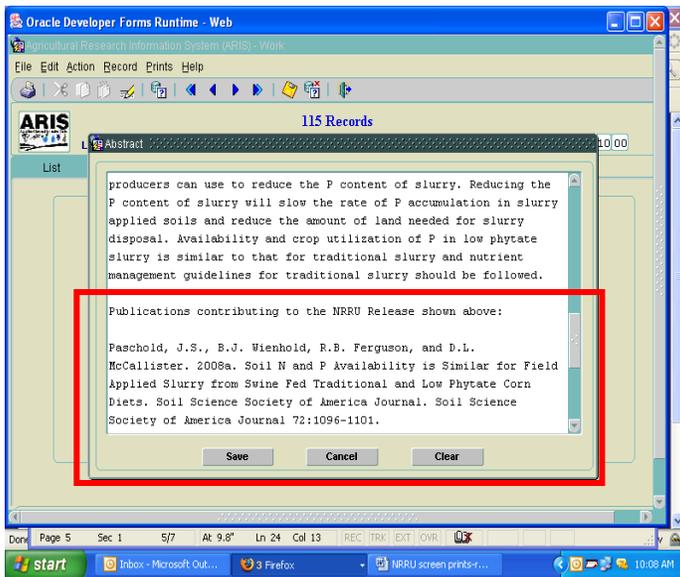


The completed screen should appear as shown above.

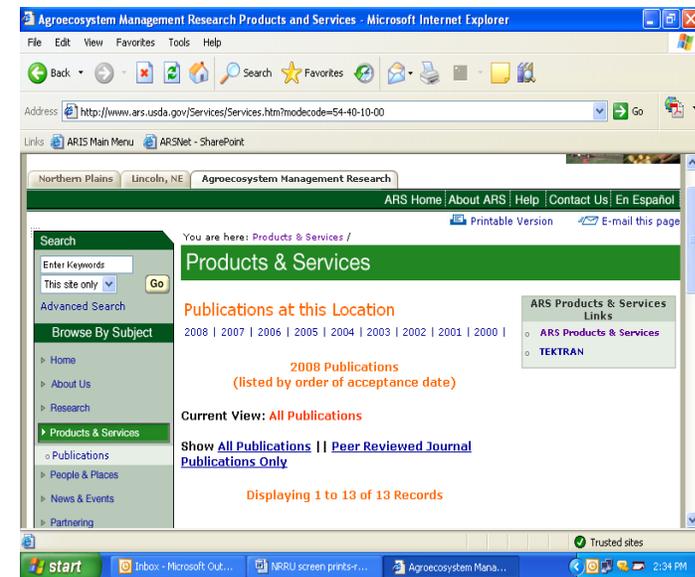
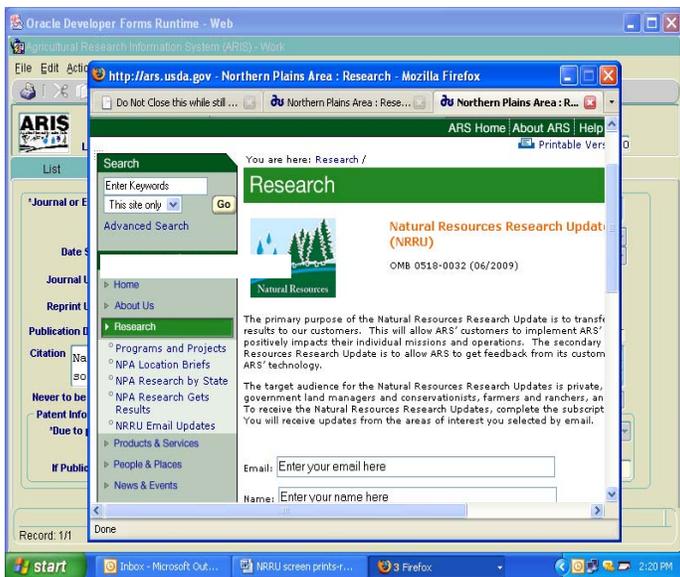
- Click on the **Save icon**.

- Click on the **Sum/Abs tab** (red oval).
- Click on the **Abstract tab** and enter the narrative from the NRRU (Word document provided by the SY).

NOTE: Only the Technical Abstract (TA) is entered. The NRRU entry does not require a Interpretive Summary.



- Use Ctrl C (copy) and Ctrl V (paste) to copy/paste the narrative from the Word document into the Technical Abstract block of the 115. The Interpretive Summary is not used when entering a NRRU.
- *Publications contributing to the NRRU Release* should be entered below the NRRU narrative. Drop down one line and enter the heading of *Publications contributing to the NRRU Release as shown above*: (refer to the entry in the red rectangle as shown above).
- Drop down one line and copy/paste the Citations provided by the ARS SY. It is not necessary to include the 115 Log Number with each Citation.
- Click on the **Save** button at the bottom of the screen.
- The 115 can be printed to obtain the hard copy for line management signature(s); saved as a pdf to the hard drive; or e-mailed directly to selected recipients for review.
- Email a copy of the approved 115 to Dr. Kaphammer so that he will have the 115 Log Number to use in assigning the NRRU number.
- The NRRU posted to the web site will have the same number as the 115 for consistency and reference purposes.



- The Journal URL will launch to the NRRU web site so that individuals can subscribe to automatically receive future NRRU postings.
- Once the Reprint URL data is available: the Unit will be notified so the specific link can be added to the 115. This link will be similar to the doi (digital object identifier) links used by journals.
- Entering the 115 will allow the NRRU to become more widely available and accessible.
- The 115 will migrate to the Products & Services link for the Research Unit and the Journal URL will appear to allow subscribing for future updates.
- The Reprint URL will launch to a pdf posting of the full NRRU.