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Opening Up Open Access Institutional Repositories to Demonstrate Value: Two Universities' Pilots on Including Metadata-Only Records

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Opening Up Open Access Institutional Repositories to Demonstrate Value: Two Universities' Pilots on Including Metadata-Only Records

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INTRODUCTION Institutional repository managers are continuously looking for new ways to demonstrate the value of their repositories. One way to do this is to create a more inclusive repository that provides reliable information about the research output produced by faculty affiliated with the institution. **DESCRIPTION OF PROGRAM** This article details two pilot projects that evaluated how their repositories could track faculty research output through the inclusion of metadata-only (no full-text) records. The purpose of each pilot project was to determine the feasibility and provide an assessment of the long-term impact on the repository's mission statement, staffing, and collection development policies. **NEXT STEPS** This article shares the results of the pilot project and explores the impact for faculty and end users as well as the implications for repositories.

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INTRODUCTION

Institutional repository (IR) managers, including the authors of this paper, understand the continuing need to demonstrate the value and purpose of repositories within their institutions. IR managers continue to strive to provide value by focusing on services, such as faculty-assisted submissions (FAS),¹ that attempt to increase the number of open access (OA) full-text (preprint, postprint, or publisher’s PDF) articles in their repositories (Figure 1). These services can be time intensive and have little to no impact on providing a more comprehensive record of the institution’s scholarly output.

ANTHROPOLOGY FACULTY PUBLICATIONS AND PRESENTATIONS

Opening up the Echo Chamber: Teaching Cultural Competence in Contentious Times

[Charles H. Klein, Portland State University](#) Follow

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Multicultural education, Cultural competence, Anthropology -- Study and teaching, Ethnology -- Teaching -- Methodology

Abstract
In recent years, political discussion and social life are increasingly concentrating in face-to-face and online echo chambers composed of individuals with similar world views. This segmentation of civil society has stymied in-depth and respectful communication across ideological difference and in the process contributed to the divisiveness that characterizes political discourse across the globe. In this article, I examine how anthropological learning and teaching can help open up these echo chambers and promote cultural empathy and cross-ideological communication. My discussion focuses on three methodologies I use in my undergraduate-level Culture, Health and Healing course – weekly critical analyses on contemporary health issues, an in-class illness narrative exercise, and a term-long public service announcement project. For each, I describe the pedagogy, present examples of how the assignment or activity plays out in the classroom, and consider how these pedagogies work toward increasing cross-cultural/ideological understanding and communication. I argue that through unsettling students’ default frameworks for thinking, reflexive and emotionally engaged anthropological teaching and learning can play important roles in laying the epistemological, affective, and ethical foundations for future professionals and engaged community members in today’s contentious times.

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¹ FAS provides mediated review and deposit of previously published works to an IR. Faculty send their CVs to library staff who research the copyright permissions for each publication and deposit what they can into their IR.

Potential Benefits from Innovations to Reduce Heat and Water Stress in Agriculture

Hendricks, Nathan P.

A key challenge in determining the optimal research and development (R&D) investment portfolio for adapting to climate change in agriculture is to understand the potential benefits from reducing alternative sources of climate damages. Existing econometric studies are not able to separately identify the impacts of heat and water stress because higher temperatures cause damages through both mechanisms. To resolve the identification problem, I introduce measures of water deficit and water surplus into a regression analysis that estimates the nonlinear impacts of heat and water stress on nonirrigated rental rates in the central United States. The results indicate rental rate losses of 33% (\$9.5 billion annually) by mid-century due to climate change in scenario RCP 4.5. I find that 65% of the projected damages are due to heat stress, 32% due to increasing water deficit, and 3% due to increasing water surplus. However, the source of damages varies spatially.

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Figure 1. Full-text records from (A) Portland State University and (B) Kansas State University.

Under the full-text-only model, there are many items that are discovered in publication harvests that IR managers are not able to load into their platforms. A common reason that full-text content cannot go into the IR is that a majority of publisher policies only allow either a pre- or a postprint copy, instead of the publisher PDF, of an article to be archived in an IR. Obtaining pre- or postprint copies of articles can be time consuming for staff when such versions are available at all. Copyright concerns can either be a hurdle or a total barrier to representing institutional works within an IR. Projects like the DAEDALUS, an IR advocacy program based out of the University of Glasgow, succeeded in adding new content to its IR but was “offered significant amounts of content that cannot be added because of restrictive publisher copyright agreements” (Mackie, 2004). To further complicate the issue, some faculty authors on the respective campuses would like to see their content included, but do not feel comfortable adding versions other than the publisher version. Faculty from the authors’ universities have expressed that only publisher-formatted content is acceptable for uploads into the IR and have formally opted out of participation with any other formats. Additionally, some faculty have elected to participate in OA on their own through personal websites or discipline-level archives. These faculty have resisted having content stored in multiple places and instead support linking metadata records to the external content to represent works within an IR. There may also be older content that is not available in a digital format, or yet-to-be published items that do not presently have full-text versions or any digital content (data, video, image, etc.) that can be uploaded to the IR, but faculty may want to let scholars and researchers know that these works were produced. Because some content cannot be uploaded due to publisher restrictions, author preferences, or various other limitations, the only remaining ways to represent this content in an IR is through metadata-only or metadata-with-link records (Figure 2). These types of records represent a potential way to provide access through hyperlinking and documentation of institutional activities.

IR managers are looking to redefine their repository services of collecting, organizing, curating, and preserving the scholarly record of the institution (Lynch 2017). This paper presents pilot projects that were conducted to broaden and rethink the scope and mission of an IR to provide a more comprehensive record of the scholarly output of the institution and enhance the repository’s range of services. The authors sought to determine the long-term impact on the repository’s mission statement, resources (including staffing), and collection development policies that would result from the inclusion of metadata-only records in the IR and the associated workflows. To determine the workload requirements and impact of this change, pilots were performed at the authors’ universities to add or simulate metadata-only records or metadata records with links to publisher and/or catalogued content to the IR. It is important to note that even with this approach librarians would still make efforts to include as much full-text content as possible. The IR managers and supporting teams felt that faculty and their universities would benefit from this adjustment by having a more

complete record of their scholarship. All content loaded into the IR would remain open access, but users might find records that are “dead” (no content or links) or with links that lead to locked content, meaning that researchers may hit paywalls when the library does not subscribe to the journal in which the article was published. In addition to its impact on faculty and end users, this new process will have two major implications for the respective IRs. First, a larger portion of scholarly output could be represented in a central location for each institution. Second, an IR might decline in rankings, depending on the rating system used to report. With a focus on highlighting the value and purpose of the IR to the institution, the authors determined that potential negative national rankings were worth the risk to increase the value of the IR for the institution.

A

ANTHROPOLOGY FACULTY PUBLICATIONS AND PRESENTATIONS

On the Validity of the Radiographic Method for Determining Age of Ancient Salmon

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Abstract

White rings visible on the centrum face of salmon vertebrae with X-rays have been used since the 1980s to age Pacific salmon (*Oncorhynchus* spp.), which in turn have been used to determine salmon species, season of capture and season of site occupation. This approach relies on a variety of assumptions, the most fundamental of which is that rings represent true years. Recent aDNA analysis has shown that the X-ray approach has flaws but the source of the error has been unknown. Given the value of reconstructing salmon population demographics and life history from ancient remains, establishing a valid and reliable method of ageing salmon vertebrae is extremely worthwhile. The main goal of our study was to evaluate if X-ray images of ring patterns on vertebrae provide a valid method of estimating fish age. Vertebrae from 66 adult Chinook salmon (*O. tshawytscha*) of known age were studied with X-rays, thin sections or low-powered (10–30 ×) magnification. We found that the white bands observed in X-rays are structural walls that do not grow annually. While X-rays are not a valid method for ageing salmonids, incremental growth seen on the surface of fish centra shows great promise for reconstructing ancient fish life history.

Description

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Anthony R. Hofkamp, Virginia L. Butler, On the validity of the radiographic method for determining age of ancient salmon, Journal of Archaeological Science: Reports, Volume 12, April 2017, Pages 449-456.

B

Effect of fittings on volumetric airflow measurements (RP-1245): Single-path duct disturbances

Babin, Bruce R.; Hickman, C.; Beck, B. T.

Current methods of making volumetric airflow measurements in the field are prone to a number of known inaccuracies because field technicians are required to take measurements in non-ideal circumstances. These situations are unavoidable due to physical limitations caused by the construction of building duct systems. This usually means that measurements are taken closer to a disturbance than would normally be desirable. It is important that these measurements be accurate and reliable since they are used in the test and balancing procedures associated with HVAC systems designed to meet comfort and air quality requirements. The objectives of this research were (1) to quantify the influence of several duct disturbances on volumetric flow rate measurements and (2) to develop guidelines for field technicians to assist them in making more accurate volumetric airflow measurements in rectangular ducts during test and balance operations. In this article, data are presented that attempt to quantify the error caused by the distance from single-path disturbances (straight ducts, elbows, 60 and 90 degree transitions) to a given airflow measurement (traverse) location.

Description:

Citation: Hickman, C., Beck, B. T., & Babin, B. (2015). Effect of fittings on volumetric airflow measurements (RP-1245): Single-path duct disturbances. *Science and Technology for the Built Environment*, 21(2), 190-206. doi:10.1080/10789669.2014.975058

Keywords: Thermodynamics; Construction & Building Technology; Engineering

Journal: *Science and Technology for the Built Environment*, **Volume:** 21, **Issue:** 2, **Starting Page:** 190, **Ending Page:** 206
Publication Date: 2015

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Publisher URL: <https://doi.org/10.1080/10789669.2014.975058>

C

Influence of processing on pomegranate (Punica granatum L.) juice flavor and aroma

Koppel, Kadri; Chambers, Edgar, IV; Anderson, E. L.

BACKGROUND: The objective of this study was to determine the effect of technological treatment on pomegranate juice flavor characteristics, aromatic compounds and physicochemical properties. Fresh, fresh frozen, pasteurized and reconstituted juice samples were made from Wonderful variety pomegranates. The samples were analyzed for their flavor profiles, aromatic compound content and physicochemical parameters (total soluble solids, pH, acidity and total phenolic content). **RESULTS:** The results indicated differences among the samples' flavor characteristics. The most differentiated was the reconstituted sample with fermented and brown flavors, while fresh, fresh frozen, and pasteurized samples did not vary as much. Concentration of aromatic compounds was lower than expected. However, this finding was in line with the flavor profiles of the samples. Some flavors as well as total phenolic content were found to be lower than what has been previously reported, and this may be the result of a number of variables such as the season, growing region and subspecies of the fruit variety. **CONCLUSIONS:** Processing has an effect on pomegranate juice properties; however, the effect is different depending on the processing method chosen. Drying and reconstituting pomegranate seeds have an impact on flavor and aromatic compounds, as well as total phenolic content. © 2014 Society of Chemical Industry

Description:

Citation: Koppel, K., Anderson, E. L., & Chambers, E. (2015). Influence of processing on pomegranate (Punica granatum L.) juice flavor and aroma. *Journal of the Science of Food and Agriculture*, 95(5), 1066-1071. doi:10.1002/jsfa.6799

Keywords: Pomegranate juice; Flavor; Processing; Aromatic compounds; sensory properties; lexicon

Journal: *Journal of the Science of Food and Agriculture*, **Volume:** 95, **Issue:** 5, **Starting Page:** 1066, **Ending Page:** 1071
Publication Date: 2015

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Publisher URL: <https://doi.org/10.1002/jsfa.6799>

Figure 2. (A) PSU metadata-only record example, (B) K-State metadata-only record example, and (C) K-State metadata with link record example.

LITERATURE REVIEW

The evolution and the ambiguity between definitions and scope of an IR stretch as far back as some of the first position papers. Johnson (2002) and Crow (2002) both focused on two defining rationales of institutional repositories, labeled the “New Scholarly Publishing Paradigm” and “Institutional Visibility and Prestige.” The crux of both rationales, however, hinges on equating products of scholarly publishing with a university’s collective intellectual capital (Johnson 2002) and the IR forming a mechanism to disrupt the scholarly publishing model. Clifford Lynch, director of the Coalition for Networked Information, proposed something different when he stated that “a mature and fully realized institutional repository will contain the intellectual works of faculty and students—both research and teaching materials and also documentation of the activities of the institution itself in the form of records of events and performance and of the ongoing intellectual life of the institution” (Lynch 2003b, p. 328). Lynch expanded on his views from 2003 in a 2016 interview, stating, “The point of IRs, in my view, isn’t to disrupt the existing scholarly publishing system, but to allow it to be expanded and diversified by providing access and stewardship for material that mainly falls outside of the traditional scholarly publishing system as it exists today—both material created by faculty and material created by the institution, or departments or other groups within it” (Poynder 2006, p. 13).

The literature on the development and growth of the IR also represents the difficulty IR managers are facing when trying to get faculty to deposit their publications into an IR. Zhang, Boock, and Wirth (2015) revealed that “it has been widely reported in the literature that faculty don’t self-archive in IRs without library mediation” (p. 3). Uncovering this difficulty revealed the struggles repository managers have with fulfilling the commitment to capture and showcase the research output of the university. Zhang et al. (2015) explored whether a university-wide OA policy would increase faculty deposits of their publications into an IR. This study showed the reluctance of faculty to deposit articles into the repository, even with an institutional-wide mandate. In fact, there was a slight decrease in the number of authors who deposited their articles in the IR in the year after the OA policy was passed. The study discovered that while faculty had “positive attitudes towards OA publishing, they are not so positive towards OA mandates” (Zhang et al., 2015, p. 1) and that “passing an OA policy alone is not a guarantee of increased faculty engagement in OA initiatives” (p. 9). An OA mandate, the literature reveals, also did not mean that faculty retained the permitted (pre- or postprint) versions of their publications. Hazzard and Towery (2017) discovered that “faculty retain nearly none of their pre-print versions of their published articles, and so we are unable to archive those titles in the repository. Most

faculty were unable to produce versions of their work (pre-prints) other than the publisher's PDF, which many publishers restrict from upload into a repository" (p. 9).

Bull and Schultz (2018) focused on a process to semiautomate the collection of new works of research produced by faculty to help IR ingest sustainability and to hedge against what they considered stagnation and inability to capture an institution's scholarly content. They presented an example of a workflow designed to aid IRs and associated services to transition "from a pilot phase or a post-pilot stagnation phase to the use of a fully operational metadata archiving service" (Bull and Schultz, 2008, p. 2). They envisioned that the service would be similar to a Current Research Information System (CRIS), except that full-text items would be added when possible. Like Zhang et al., they discovered that while "more of scholarly record is captured with this new workflow, problems remain, including a lack of full-text addition" (p. 16).

With challenges and dwindling resources, there is reason for IR managers to look to the formal melding of IRs and CRISes, which have appeared as add-ons to IR platforms for years (SelectedWorks and the Expert Gallery Suite being notable for Bepress's Digital Commons platform), as a potential path for the future. DSpace-CRIS, created by the partnership of University of Hong Kong and the Italian Interuniversity Consortium Cineca, represents a unique offering where an open-source IR has been altered to serve the dual purpose of IR and CRIS (Palmer, Bollini, Mornati, & Mennielli, 2014). Similar in nature, CRIS systems were developed to store and manage data about research conducted at an institution, while IRs traditionally pair scholarly and research records with corresponding digital objects. Writing on CRIS systems and repositories in the United Kingdom, Nicholas Joint (2008) states that the "highly specialized nature of research publications lists are ill-suited to take over the role of repositories, but several UK based institutions are happily using their single open access repository as a research publications system for research evaluation with complete success" (p. 573).

The inclusion of metadata-only records within an IR to better showcase institutionally created outputs represents just a stepping stone in the broader evolution of IR platforms. The push to include metadata-only records in an IR has been undertaken by a few institutions, in various geographic locations, and largely independent of any unifying strategy. This includes the pilots explored within this article, which were planned and administered individually. Speaking at the 11th International Conference on Open Repositories in 2016, representatives from King Abdullah University of Science and Technology presented on the development of a publications tracking process and its integration with their repository (Baessa, Grenz, & Wang, 2016). Part of that integration involved modifying the IR to deposit metadata-only records. "The success of these

tracking and harvesting services in making our repository comprehensive and up-to-date has allowed us to rely on our repository as the key source of publications information for additional integrations that update ORCID records with publication information, populate a PlumX metrics dashboard and, most recently, support the implementation of a current research information system” (Baessa et al., 2016, p. 1).

DESCRIPTION OF PROGRAM

Pilot Project Background

A common goal for both pilots was to create a more inclusive repository that would provide reliable information about the research output produced by faculty affiliated with the institution. The purpose of each pilot project was to determine the feasibility and provide an assessment of the long-term impact on the repository’s mission statement, staffing, and collection development policies.

In 2016, Portland State University (PSU) administration approached library leadership to discuss a plan to study the feasibility of using the IR to track the scholarly output of the university. Prior to this, university administration had investigated faculty activity reporting software but had been unable to fully implement it on campus, seeing the IR as a potential solution. During the same year, the director of the Kansas State University (K-State) IR was pushing for increased inclusion of the scholarly output of the university within the IR. One way to accomplish this goal was to add records of all faculty outputs to the IR regardless of the format or ability to provide a full-text file. Although there was much hesitation and concern about including metadata-only records by library employees, the director and IR team were permitted to explore the issue through a pilot.

Both pilot projects sought to examine shifting the primary purpose of the university’s IR away from being full-text, open access IR—neither university had an open access mandate, so library staff relied on faculty to participate voluntarily. The authors envisioned projects that would celebrate the research and creative works produced, build new relationships with faculty, and provide transparency of the scholarship created at the universities. At the onset of these pilots, both universities’ IRs were open-access repositories with only full-text content, excluding minimal items with limited embargoes and campus restrictions; metadata-only records had not previously been included.

Profiles Of The Pilot Projects

University	PSU	K-State
Basic Information	Public, ~28,000 students, high research activity	Public, ~24,000 students, high research activity
IR Purpose	PSU provides students, faculty, and staff with opportunities to openly share their work, both formally and informally. The IR offered the opportunity to share the knowledge that is created with disciplinary colleagues and with our global community at large. This value is present not only in the benefit to others who use that knowledge, but also in the recognition that scholars gain through the dissemination and impact of their work.	K-State showcases a variety of content, including digital scholarship created by institution scholars and the library’s digital collections. Generally, only members of the home academic community may upload content. The IR will have a direct impact on the university’s goal to become one of the top 50 public research universities by collecting, distributing, and storing the research and scholarship produced by faculty, staff, and students along with the unique materials of historical importance to elevate the visibility of the academic success of the university.
Pilot Time Frame	Started on February 1, 2016 and completed on March 31, 2016.	Started in December 2015 and completed in July 2016; however, the pilot project workflow was completed over a three-month period from January 2016 to March 2016.
Staffing	.65 FTE / 26 hours per week	1.5 FTE / 60 hours per week
Pilot Scope	To capture the 2015 scholarly activities of the College of Engineering & Departments of Computer Science and History.	To capture the institution’s scholarly activities of all faculty output from the first quarter of 2015.

Table 1. Overview of each university and its associated pilot project

PSU and K-State both used a common methodology to track new articles published by their faculty for inclusion in the IR and to encourage faculty engagement with the IR. These common methods included:

- CVs, resumes, online publication lists, and departmental websites
- Third-party databases, including Web of Science, BioMed Central Journals, Directory of Open Access Journals, Scopus, and ScienceDirect
- Items suggested for inclusion by faculty

PSU also included an approach to systematically research individual faculty through personal websites and Google Scholar citations. K-State, however, limited focus on harvests from third-party databases, Web of Science and Scopus, for their pilot.

Pilot Process

PSU Pilot Process

The pilot at PSU was a short-term (two-month) project designed to capture “all” of the 2015 scholarly activities of the College of Engineering and Departments of Computer Science and History. PSU chose the time frame of February to March 2016 because it ensured that publications published at the end of 2015 would be included in the indexes. The College of Engineering and Departments of Computer Science and History were chosen for their diverse range of scholarly activity, with the expectation that they would provide a well-rounded project and enable assessment.

Citations were discovered and added to the IR through the following process:

1. Harvested Web of Science, Directory of Open Access Journals (DOAJ), Elsevier Journals, Google Scholar, arXiv, IEEE Xplore, Medline, PLOS One, PubMed, and systematically researched individual faculty websites and curriculum vitae.
2. Verified that the publications were not already in the IR.
3. Cleaned up problematic citations that were generated. Many of the citations harvested did not include dates or author affiliations. This process also included deduping citations harvested from the multiple sources.
4. Conducted name authority control utilizing our locally controlled authority structure.
5. Checked copyright status to determine what version could be uploaded; emailed authors asking for the correct version (preprint or postprint). The project team had mixed results with collecting the correct version from the authors and questioned the long-term sustainability of continuously reaching out to faculty with low response rates.
6. Added metadata using batch upload process. Part of this process included manually adding metadata to the spreadsheets for batch uploading.

K-State Pilot Process

The pilot at K-State was also a short-term (three-month) project to determine the feasibility of being more inclusive with the research and creative outputs of the university that we include in the IR. The goal was to capture scholarly activities of any K-State faculty from January to March 2016 and demonstrate the increase in representation of this output. K-State chose this time frame to mimic their current practices of harvesting in quarterly intervals.

As it was uncertain whether this pilot would be put into practice, all pilot work was completed within a demo (nonproduction) instance of the IR. Each employee within the pilot process tracked the time used, negative/positive impact on current workflow, and recommendations for any changes. Like PSU for this project, the IR scope was expanded to include metadata-only records and links to publications that were not freely available due to copyright restrictions. However, the workflow used in the subsequent refinement and quality control of the records and metadata is, with few exceptions, the same as when records and items are uploaded into K-State IR in normal production. The fourth step, review, was conducted only to assess the value and success of the pilot project.

1. Harvested records from Web of Science and SCOPUS, assisted by each system's indexed affiliation search function, and removed all duplications. Used permissions verified using a script that queried the Sherpa/Romeo API (Flynn, Oyler, & Miles, 2013) to identify permissible publisher PDFs. All other items had their publisher URL added to the metadata records. Cleaned and enriched records with any missing information. Name authority control was conducted using a university-wide data set that provided all faculty names, affiliated departments, ranks, and hire dates.
2. Files prepared for ingestion were sent for final metadata quality control.
3. Transferred files for batch uploading into demo instance of D-Space.
4. Completed review of content by public services and other interested parties and gathered feedback.

Faculty status at K-State was determined with a match against a university wide data set that provided all faculty names, ranks, and hire dates. Faculty who do not match up to this data set are removed from our harvest. This may mean that some items are pulled that actually match our universities' affiliation through some other level or a new affiliation. Harvesting a set publication date range allows us to pull in recent content only. Combining this workflow allows us to pull in content recently written by our current faculty. K-State will load content that faculty members published before coming to our institution;

therefore, we do not screen out publications written before their hire date. Also, since we are pulling the recent quarterly publications, there is a slim chance that older content, not written during current employment, would be found in our harvest.

Pilot Process: Both Universities

In the majority of the cases the journals were the copyright owners, and therefore their policies were consulted for harvest workflow determination. Because IR employees initially harvested only publisher PDFs allowed by journal policy, neither institution consulted faculty, meaning we had no immediate struggles with identifying the correct version with authors and only uploaded the “perfect, polished” publications.

Outcomes

Both pilots succeeded in their primary goal of demonstrating that the IR could be used as the central location to showcase the scholarly record of the university. These efforts, although planned and coordinated separately, resulted in a shared 60% increase in representation of faculty-created content outputs (see Tables 2 & 4). Through metadata-only, metadata with links, and full-text records, faculty are able to display their entire body of works in a centralized location, leading to increased discoverability and marketability of their research and works. Both pilots also showed an increased demand on resources; however, the authors justify the allocation of these resources by

- Addressing the silo problem across campus by increasing possibilities for interdisciplinary connections among individual authors
- Centralizing discoverability and increasing visibility of university content as a whole

Because the pilots were slightly different, we will review additional individual outcomes below.

February 1, 2016–March 31, 2016

Number of Faculty and Research/Affiliated Faculty	190
Number of Hours (researching and uploading)	212
Number of Records Added	273

Table 2. Number of PSU faculty researched, total number of employee hours during the pilot project, and total number of records added

Portland State University

The study showed the significant impact of the pilot project on staff at PSU. For the pilot project, the unit’s staff examined about 9% of the total faculty and only focused on a one-year period. Completing that work took 212 hours. To expand the pilot project to include examining the scholarship of the entire PSU faculty with the goal of capturing as much scholarship as possible, with only a one-year period as the baseline, it would take an estimated 1,943 hours, equivalent to the work of one full-time FTE, as PSU currently has 1,741 faculty.

Department	# of Records in 2015 (metadata-only) (during project)	# of Records in 2015 (full-text)* (during project)
History	11	3
Civil and Environmental Engineering	23	46
Computer Science	7	24
Electrical and Computer Engineering	59	24
Engineering and Technology Management	9	31
Mechanical and Materials Engineering	23	13
<i>Total</i>	<i>132</i>	<i>141</i>

Table 3. Number of records (full-text and metadata-only) added during PSU pilot project
 *Full text includes final published versions, postprints, presentations, working papers, and technical reports.

Kansas State University

January 1, 2016–March 31, 2016	
Number of Faculty and Research/Affiliated Faculty	226
Number of Hours	72
Number of Records Added	306

Table 4. Number of K-State faculty researched, total number of employee hours during the pilot project, and total number of records added

In conjunction with exploring this pilot, K-State adjusted its IR workflow from 2015 to 2016, including

- Matching faculty against university-wide data set; replacing individual faculty affiliation searches
- Beginning quarterly harvests; replacing daily harvests.
- No longer requesting pre- and postprints; removing a large portion of hours used to communicate with authors to request publications and explaining versions
- Using the process and assets created by Flynn et al. (2013) to partially automate permissions checking using the SHERPA/RoMEO API to identify published items where the publisher's version was allowed to be deposited. Performing manual permission checking to ensure compliance with journal copyright policies

These adjustments have resulted in roughly 87% less resources required than in the old workflow. The biggest time savers implemented were scripts that automated a portion of the proposed workflow along with the elimination of a majority of correspondence with authors that was performed in the old workflow. K-State's old workflow included many of the same steps as PSU's pilot workflow, so it has been included here for time comparison. As shown in Figure 3, K-State's proposed workflow would lead to only a 2.5 hour-per-week increase over the current workflow.

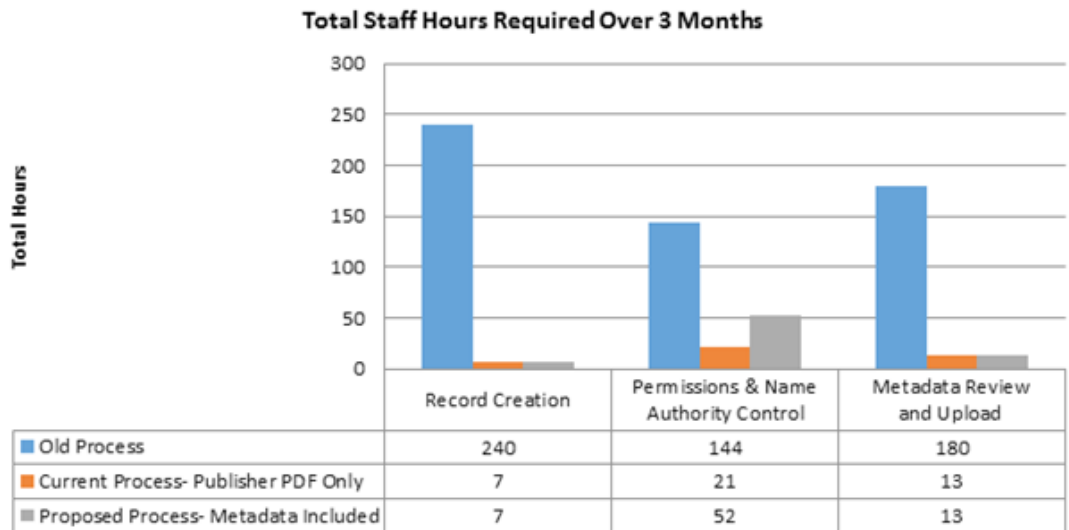


Figure 3. Hours used in each step of the workflow for the old, current, and proposed processes

Department	# of Records in 2015 (metadata-only) (during project)	# of Records in 2015 full-text)* (during project)
Accounting	1	
Agricultural Economics	9	
Agricultural Research Center-Hays	4	
Agronomy	9	2
Anatomy & Physiology	14	1
Animal Sciences & Industry	8	1
Apparel Textiles & Interior	2	
Architecture	1	
Art	1	
Biochem Molecular Biophysics	9	2
Biological & Agricultural Engr	9	
Biology	21	9
Chemical Engineering	1	1
Chemistry	5	9
Civil Engineering	3	
Clinical Sciences	14	1
Communication Studies	1	
Computing & Information Sci	1	
Diagnostic Medicine Pathobiology	13	3
Economics	3	
Electrical & Computer Engr	3	
English	4	
Entomology	4	4
Family Studies & Human Service	3	
Finance	1	
Geography	3	1
Geology	1	
Grain Science & Industry	4	1
History	2	
Horticulture Forestry & Recreation	3	
Human Ecology	1	
Human Nutrition	2	1
Industrial & Mfg Sys Engr	2	1
Interior Arch & Product Design	1	
Journalism & Mass Communication	1	

Department	# of Records in 2015 (metadata-only) (during project)	# of Records in 2015 full- text)* (during project)
Kinesiology	7	1
Landscape Arch/Reg & Comm Plan Management	1	
Marketing	1	
Mathematics	2	
Mechanical & Nuclear Engr	5	
Modern Languages	1	
NW Research Ext Center Colby		1
Philosophy	4	
Physics	7	28
Plant Pathology	5	6
Political Science	4	
Psychological Sciences	12	2
Research Vice President	1	
School of Leadership Studies		1
Sociology Anthropology & SocWk	3	
Spec Ed Counseling & Stud Aff	3	
Statistics	2	
SW Research Ext Cntr Garden Cy	1	
Veterinary Diagnostic Lab	4	2
TOTAL	228	78

Table 5. Number of records (full-text and metadata-only) added during K-State pilot project
Of the 306 records loaded during this pilot project, only 78 were full-text.

*Full text includes only Publisher PDFs.

Survey Responses

To gauge the success of the project, the pilot team at K-State decided to seek feedback on inclusion of metadata records in the IR from three groups of users: (1) faculty outside the library; (2) full-time employees of K-State Libraries; and (3) undergraduate and graduate students (see Appendix A). All members of the pilot team were certified in human research. The research project and associated survey were submitted for institutional review board (IRB) review; the research was declared exempt from review. For Group 1, rather than seeking feedback from all faculty at K-State, we chose to seek feedback only from those faculty who were discovered during the harvest phase and had records in Web of Science or in

Scopus for items published between January and March 2015. We decided to seek feedback from every full-time employee of K-State Libraries (Group 2) and as many undergraduate and graduate students as possible (Group 3). Although we solicited student responses, we had no respondents from this category.

The majority of faculty in Group 1 had positive responses about including metadata content in the K-State IR. As shown in Figure 4, in Groups 1 and 2, faculty and librarians, over half of the respondents from each area preferred to have a more comprehensive list of search results in their area of research.

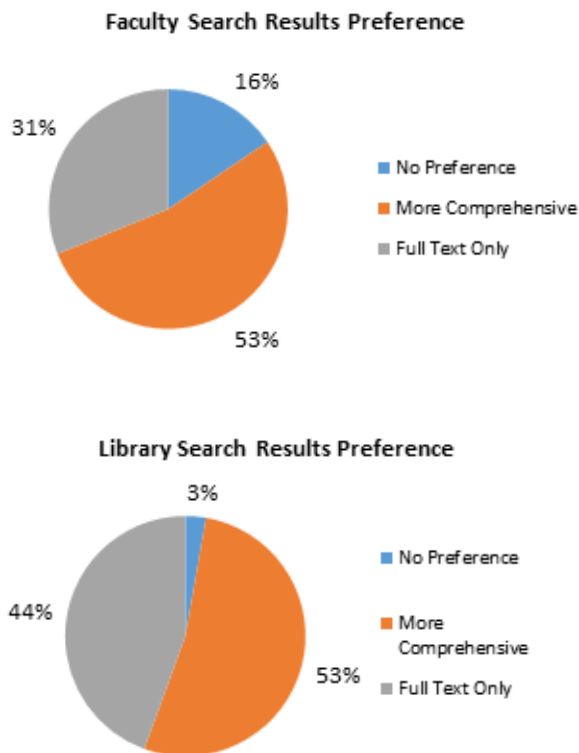


Figure 4. Reported search results preferences from 45 faculty respondents and 36 library respondents

The majority of surveyed university faculty from Group 1 indicated they were very or somewhat pleased about having metadata-only content if it provided more comprehensive search results and a complete picture of their digital scholarship (see Figure 5, respondent survey feedback responses).

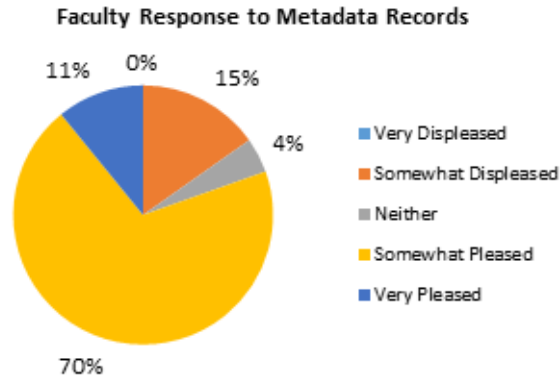


Figure 5. Faculty responses to having metadata records included in their search results, based on 46 faculty responses

The faculty in Group 1 also overwhelmingly preferred to have a complete record of their digital scholarship rather than a partial one or none at all (Figure 6). Further studies will need to be conducted to gather a larger body of faculty responses and to further validate this finding, but this study indicated faculty preferences for comprehensive search results and publication representation, even with metadata-only records. These results provided support for the IR team to demonstrate overwhelmingly positive to neutral support from local stakeholders for this adjustment and gave evidence for IR managers to consider the inclusion of metadata records.

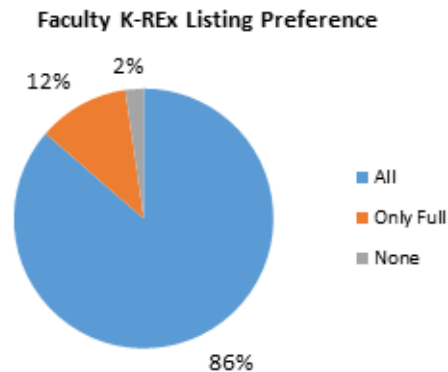


Figure 6. Faculty responses to preference regarding their own scholarship representation in the IR, based on 44 faculty responses

Surveyed respondents were given opportunities for open comments, which provided insightful faculty feedback:

- “My frustration is not with the library, but rather the scientific publishing industry and my colleagues who put their work in journals that try to sell reprints.”
- “I would need to access the full work in order to use/cite the research.”
- “I would be extremely pleased to know relevant work existed. Of course it would be inconvenient to hunt it down, but being frustrated about that would hardly make me frustrated to now have the information that it exists.”
- “I think if we are talking about having some information versus none, then some information always wins. But the same type of certainty also exists when comparing all versus some, having all of the information always wins.

NEXT STEPS

IR managers and institutions must decide for their individual institutions if they will add metadata-only records. As the project teams assess the outcomes of their pilot projects several lessons and next steps have become apparent.

Impact on Users

There is a risk of frustrating users when citations of works are the only option available due to copyright limits and unavailability of pre- or postprints. Researchers may hit paywalls when the library does not subscribe to the resource in which the content was published. It may be possible in many cases for researchers to access cited works, if the library has subscriptions to the journals in which they appear. Non-affiliates may have a more difficult time accessing cited works through the repositories, although depending on their affiliation they may have access to the content even if the university does not. When there is not a full-text version or direct link to the published research, links should take researchers to the publisher’s page. K-State attempted to combat this risk by adding a note to each record warning users that they might not be able to access the full-text content.

Postprints

The lack of access to the full-text publications provides the opportunity for repository managers to engage faculty around the importance of retaining preprint or postprint versions of their published articles (or maybe more importantly around how to submit addendums to retain their rights and how to find journals that never take their copyrights to start).

The majority of journals only allow either a pre- or a postprint copy of an article to be archived in institutional repository, and each pilot project indicated that most faculty retain only the publisher's PDF. As demonstrated above, this creates a resource strain on library staff tasked with locating and ingesting the correct version.

PSU's pilot project reflected the importance of soliciting faculty for the corrected version. Shortly after the pilot project ended, PSU implemented new workflows for student workers to communicate with faculty and request the corrected version. This creates a more sustainable model that attempts to further increase the rate of deposit of full-text articles.

Prior to the launch of the pilot project at K-State, it was a standard practice to reach out to faculty and directly request postprint copies of published work. Decreases in staffing resources led to more efficient workflows for faculty work discovery, permissions checking, and IR ingest, but the practice of soliciting postprint versions of discovered work became unsustainable and was put on hold indefinitely. The project at K-State was partially meant to help make soliciting postprints sustainable by leveraging metadata-only IR records to give faculty more of a stake in how they are represented in their institution's IR.

Harvesting

Searching multiple academic databases provides the most comprehensive picture of the scholarly output happening at the institution, but handling multiple feeds (RSS and API) can add an additional layer of work for normalizing the data. This layer can be time consuming, as records must be compared for accuracy and checked for duplicates. With third parties controlling the data output, much of this process is currently a manual process due to the discrepancies in metadata displayed. As a result, PSU built a citation application (see Appendix B) that captures information from various databases' RSS feeds and APIs that feed into the repository by exporting citation metadata into an Excel spreadsheet. The citation application also confirms author affiliation and removes duplicate records. This tool allows for scalability beyond previous harvests and is much easier for library staff to implement than a more inclusive workflow.

Discovery and Indexing

Repositories are designed to facilitate the efficient dissemination of content to a variety of locations including discovery layers, ILSs, OAI-PMH aggregators, and emerging tools such as Unpaywall and the Open Access Button. The inclusion of IR metadata records into these disseminations potentially muddies the waters of the otherwise clean data

streams to tools that expect full-text items. In these cases, the universities anticipate modifying these harvests to ignore metadata records. This also provides the opportunity to discuss and explore other avenues to showcase institutional research outputs, such as a CRIS platform. Efforts should be made to reduce any confusion or discovery issues where possible.

The effects on searching within library systems and any other platforms where IR records are indexed were considered during these pilots. The pilot teams determined that it would be important to have clear identifying information on metadata-only records to use in filtering records and aiding in user navigation of IR records. Working with the integrated library discovery services teams, IR staff will exclude IR records that are metadata-only or metadata with links, which should eliminate the problem of users going in circles from the discovery layer to the IR to the discovery layer. To indicate metadata-only records, PSU added “Citation” as a document type in their metadata, and K-State included the addition of the fields “Metadata” and “Publisher URL” within each record. The new field “Metadata” included text to let the user know that they have accessed a metadata record. The “Publisher URL” field gave the user a hyperlink to the original publication, which may or may not be open access.

“It would be helpful if a statement was added that the publisher did not allow the content to be posted. Then I would be frustrated with the publisher but not K-State Libraries.” This and other statements by faculty show us that their frustrations may not lie with the library or this service. Through statements added to the IR records and education on campus, IR managers can work to further reduce frustrations on campus and help our authors understand how to retain certain rights to their content.

CONCLUSION

Institutional repositories were developed to make academic institutions’ intellectual capital accessible to the world and simultaneously provide a value-added service for enhancing scholarly communication. Thus, the IR metadata pilot project teams recommend that their university IRs move forward with adding metadata-only records and metadata records with links to publications. The workflow and process used to ingest metadata-only records will be continually refined as needed, including addressing issues discussed within this article.

After extensive conversations and meetings, PSU university administration and library administration agreed with the recommendations of the pilot project team and approved transitioning to adding metadata-only records across the entire repository. The pilot team felt that the need for additional staffing, as mentioned above, needed to be addressed in order to fulfill the true mission of a comprehensive reflection of the breadth of works created at PSU. With the implementation of the citation tracking tool (Harvesting section above), the pilot team began

implementing new workflows and started to add metadata-only records to the repository. The K-State library administration agreed with recommendations of their local pilot team and approved the addition of metadata records to the IR. Administration and the pilot team felt strongly that several issues and features, many found within Next Steps section above, needed to be adjusted and/or reviewed before proceeding with ingesting metadata records into the IR. After administrative approval, librarians began reviewing and preparing the live IR site and interconnected systems to properly handle metadata records. Unfortunately K-State has experienced several staff attritions and extensive damage to their library due to fire, both of which have hindered implementation efforts.

It is important to consider return on investment when deciding whether or not to implement a new process. While adding metadata records into the IR will increase demand on IR resources, this increase would yield several benefits that may justify the allocation of these resources, including but not limited to

- Reducing disciplinary silos across campus
- Increasing diversity of represented content
- Improving university recognition through centralized, visible content
- Enabling comprehensive representation of university scholarship and research

If metadata records, however, are not added, potential problems include

- Risk of frustrating users unable to find any record of a university-affiliated publication
- Missing scholarship in the institutional record
- Added difficulties for researchers in connecting an article to specific faculty
- IRs limited to full-text versions of scholarship

The pilot teams feel that metadata-only content does not change the purpose and scope of the IR—to disseminate the research at the university—and does move the IR in the direction of documenting as much scholarly output as possible. These pilots showed an incredible average of 60% increase in representation and also demonstrated that expanding the definition of the repository programs permitted library staff to include more faculty records. K-State also demonstrated a 58% increase in included departments. These results satisfy the pilot goal to demonstrate that adding metadata records creates a more inclusive repository that provides reliable information about the research output produced by faculty affiliated with the institution.

If the pilot project strategy were to be applied more broadly in the future, the library would need to further consider how to frame the inclusion of citations in what has previously been an open access full-text repository. Focusing on the inclusion of full-text articles benefits scholars worldwide, but adding metadata records reflects the breadth of publications at a university.

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APPENDIX A

Survey Instruments for Faculty and Library Staff

Faculty

**K-State Research Exchange (K-REx)
Enhancement Survey**

Informed Consent

Overview: Kansas State University Libraries are conducting this survey to learn about our patrons' preferences regarding the type of results available in Kansas State University's Institutional Repository, the K-State Research Exchange (K-REx), <https://krex.k-state.edu/>. If you decide to participate, you will take a survey that should take approximately **5 minutes** to complete.

Discomfort/Risks: There are no anticipated risks of participating in this research study beyond what you would encounter in everyday life. Please skip any items that you feel are objectionable or that make you feel uncomfortable. You may also stop your participation in the study at any time.

Confidentiality: Your responses are completely anonymous. The researchers may publish the results of the study. If they do, they will only discuss group results. Your name will not be used in any publication or presentation about the study.

Contact: If you have any questions or concerns about this study, you can contact us at: Jason Coleman at (785) 532-7427 or coleman@ksu.edu, Rebel Cummings-Sauls at (785) 532-7444 or rebelcs@ksu.edu, Amanda Harlan at (785) 532-7220 or aharlan@ksu.edu, Cliff Hight at (785) 532-3420 or chight@ksu.edu, Laurel Littrell at (785) 532-5467 or laurlit@ksu.edu, or Ryan Otto at (785) 532-7444 or rwotto@ksu.edu.

Institutional Review Board Approval: This study has been reviewed by the Institutional Review Board (IRB) at Kansas State University. If you have questions pertaining to your rights as a research subject, please contact Kansas State University IRB (Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224).

You are under no obligation to participate in this study. Clicking the “>>” button below indicates that:

- you have read the information provided above (or have had the information read to you).
- you are aware that this is a research study.
- you have voluntarily agreed to participate in the study.

Introduction

This survey concerns a potential change to the K-State Research Exchange (K-REx), a digital archive located at <https://krex.k-state.edu>. The primary goal of K-REx is to collect, preserve, and make accessible the publications and other scholarly work of K-State faculty and students.

The current situation:

K-REx contains only those scholarly works for which the publisher allows K-REx to attach a version of the full content of the work and make that attachment freely available to anyone. In addition to the full content, K-REx also provides summary information about the scholarly work (e.g., title of the work, names of the author(s), an abstract, keywords, publication source, publication date).

Many publishers do not allow K-REx to attach a version of the full content of a scholarly work. As a consequence, K-REx contains information about only a small percentage (approximately 25%) of the scholarly works produced by K-State faculty and students.

The potential change:

K-State Libraries is looking into the possibility of enhancing K-REx by adding information about scholarly works even if the publisher does not allow K-REx to attach a version of the full content of the scholarly work. This means that K-REx would contain two types of results: (1) results that give summary information and have full content attached; and (2) results that have only summary information.

If this were done, K-REx would become a nearly complete record of the scholarly output of K-State faculty and students. However, K-REx would lack full content for the majority of that output.

Purpose of this survey:

We are conducting this survey to gain insight into potential benefits and challenges this change might produce for the K-State community.

Questions

1. When you search for scholarly papers on a topic, which do you prefer?
 - a list where every result has full content immediately available
 - a more comprehensive list of results that includes some items for which full content is not available
 - I do not have a preference

Effect of fittings on volumetric airflow measurements (RP-1245): Single-path duct disturbances

Babin, Bruce R.; Hickman, C.; Beck, B. T.

Current methods of making volumetric airflow measurements in the field are prone to a number of known inaccuracies because field technicians are required to take measurements in non-ideal circumstances. These situations are unavoidable due to physical limitations caused by the construction of building duct systems. This usually means that measurements are taken closer to a disturbance than would normally be desirable. It is important that these measurements be accurate and reliable since they are used in the test and balancing procedures associated with HVAC systems designed to meet comfort and air quality requirements. The objectives of this research were (1) to quantify the influence of several duct disturbances on volumetric flow rate measurements and (2) to develop guidelines for field technicians to assist them in making more accurate volumetric airflow measurements in rectangular ducts during test and balance operations. In this article, data are presented that attempt to quantify the error caused by the distance from single-path disturbances (straight ducts, elbows, 60 and 90 degree transitions) to a given airflow measurement (traverse) location.

Description:

Citation: Hickman, C., Beck, B. T., & Babin, B. (2015). Effect of fittings on volumetric airflow measurements (RP-1245): Single-path duct disturbances. *Science and Technology for the Built Environment*, 21(2), 190-206. doi:10.1080/10789669.2014.975058

Keywords: Thermodynamics; Construction & Building Technology; Engineering

Journal: *Science and Technology for the Built Environment*, **Volume:** 21, **Issue:** 2, **Starting Page:** 190, **Ending Page:** 206
Publication Date: 2015

Record URL: <http://hdl.handle.net/123456789/32355>

Content Statement: This record does not contain the full-text. If available, click on the link labeled "Publisher URL" to see where the full-text of the item is located. If you are a K-State student, staff, or faculty, and unable to access the item, try searching for the item in Search It (<http://bit.ly/ksusearchit>) or ask a K-State Librarian (<http://www.lib.k-state.edu/ask-a-librarian>).

Publisher URL: <https://doi.org/10.1080/10789669.2014.975058>

2. Which of the following statements best describes how you would feel if you were researching that topic and were to come across the result above?
 - I would be very pleased, because I would have learned that this research exists. The absence of a full content link would not bother me.
 - I would be somewhat pleased. I would be happy to have learned that this research exists, but would be a little frustrated at the lack of a full content link.
 - I would be neither pleased nor displeased.
 - I would be somewhat displeased. Although I would appreciate learning about this research, the lack of a full content link would be slightly frustrating.
 - I would be very displeased. The lack of a full content link would be very frustrating and would override any benefit of having discovered that this research exists.
3. Comments: (Open Response)

Influence of processing on pomegranate (*Punica granatum* L.) juice flavor and aroma

Koppel, Kadri; Chambers, Edgar, IV; Anderson, E. L.

BACKGROUND: The objective of this study was to determine the effect of technological treatment on pomegranate juice flavor characteristics, aromatic compounds and physicochemical properties. Fresh, fresh frozen, pasteurized and reconstituted juice samples were made from Wonderful variety pomegranates. The samples were analyzed for their flavor profiles, aromatic compound content and physicochemical parameters (total soluble solids, pH, acidity and total phenolic content). **RESULTS:** The results indicated differences among the samples' flavor characteristics. The most differentiated was the reconstituted sample with fermented and brown flavors, while fresh, fresh frozen, and pasteurized samples did not vary as much. Concentration of aromatic compounds was lower than expected. However, this finding was in line with the flavor profiles of the samples. Some flavors as well as total phenolic content were found to be lower than what has been previously reported, and this may be the result of a number of variables such as the season, growing region and subspecies of the fruit variety. **CONCLUSIONS:** Processing has an effect on pomegranate juice properties; however, the effect is different depending on the processing method chosen. Drying and reconstituting pomegranate seeds have an impact on flavor and aromatic compounds, as well as total phenolic content. © 2014 Society of Chemical Industry

Description:

Citation: Koppel, K., Anderson, E. L., & Chambers, E. (2015). Influence of processing on pomegranate (*Punica granatum* L.) juice flavor and aroma. *Journal of the Science of Food and Agriculture*, 95(5), 1066-1071. doi:10.1002/jsfa.6799

Keywords: Pomegranate juice; Flavor; Processing; Aromatic compounds; sensory properties; lexicon

Journal: *Journal of the Science of Food and Agriculture*, **Volume:** 95, **Issue:** 5, **Starting Page:** 1066, **Ending Page:** 1071
Publication Date: 2015

Record URL: <http://hdl.handle.net/123456789/32364>

Content Statement: This record does not contain the full-text. If available, click on the link labeled "Publisher URL" to see where the full-text of the item is located. If you are a K-State student, staff, or faculty, and unable to access the item, try searching for the item in Search It (<http://bit.ly/ksusearchit>) or ask a K-State Librarian (<http://www.lib.k-state.edu/ask-a-librarian>).

Publisher URL: <https://doi.org/10.1002/jsfa.6799>

4. If you wanted to obtain the full content of the article described above, what would you do? (Open Response)

5. How do you anticipate that adding results to K-REx for which no full content is available within K-REx would affect your ability to find scholarly articles authored by K-Staters?

Select one: (Likert Scale)

- Make it harder
- (blank)
- No effect
- (blank)
- Make it easier

6. Would you prefer that K-REx include information about:

- All of your research and creative activities
- Only those research and creative activities for which the full content can be included in K-Rex
- None of your research and creative activities

7. Can you think of any circumstances under which having a result without full content in K-REx for one of your research and creative activities could be troubling to you? If so, please explain. (Open Response)

8. Any other feedback you would like to share?

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Contact: If you have any questions or concerns about this study, you can contact us at: Jason Coleman at (785) 532-7427 or coleman@ksu.edu, Rebel Cummings-Sauls at (785) 532-7444 or rebelcs@ksu.edu, Amanda Harlan at (785) 532-7220 or aharlan@ksu.edu, Cliff Hight at (785) 532-3420 or chight@ksu.edu, Laurel Littrell at (785) 532-5467 or laurlit@ksu.edu, or Ryan Otto at (785) 532-7444 or rwotto@ksu.edu.

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This survey concerns a potential change to the K-State Research Exchange (K-REx), a digital archive located at <https://krex.k-state.edu>. The primary goal of K-REx is to collect, preserve, and make accessible the publications and other scholarly work of K-State faculty and students.

The current situation:

K-REx contains only those scholarly works for which the publisher allows K-REx to attach a version of the full content of the work and make that attachment freely available to anyone. In addition to the full content, K-REx also provides summary information about the scholarly work (e.g., title of the work, names of the author(s), an abstract, keywords, publication source, publication date).

Many publishers do not allow K-REx to attach a version of the full content of a scholarly work. As a consequence, K-REx contains information about only a small percentage (approximately 25%) of the scholarly works produced by K-State faculty and students.

The potential change:

K-State Libraries is looking into the possibility of enhancing K-REx by adding information about scholarly works even if the publisher does not allow K-REx to attach a version of the full content of the scholarly work. This means that K-REx would contain two types of results: (1) results that give summary information and have full content attached; and (2) results that have only summary information.

If this were done, K-REx would become a nearly complete record of the scholarly output of K-State faculty and students. However, K-REx would lack full content for the majority of that output.

Purpose of this survey:

We are conducting this survey to gain insight into potential benefits and challenges this change might produce for the K-State community.

Questions

1. When you search for scholarly papers on a topic, which do you prefer?
 - a list where every result has full content immediately available
 - a more comprehensive list of results that includes some items for which full content is not available
 - I do not have a preference

**Effect of fittings on volumetric airflow measurements (RP-1245):
Single-path duct disturbances**

Babin, Bruce R.; Hickman, C.; Beck, B. T.

Current methods of making volumetric airflow measurements in the field are prone to a number of known inaccuracies because field technicians are required to take measurements in non-ideal circumstances. These situations are unavoidable due to physical limitations caused by the construction of building duct systems. This usually means that measurements are taken closer to a disturbance than would normally be desirable. It is important that these measurements be accurate and reliable since they are used in the test and balancing procedures associated with HVAC systems designed to meet comfort and air quality requirements. The objectives of this research were (1) to quantify the influence of several duct disturbances on volumetric flow rate measurements and (2) to develop guidelines for field technicians to assist them in making more accurate volumetric airflow measurements in rectangular ducts during test and balance operations. In this article, data are presented that attempt to quantify the error caused by the distance from single-path disturbances (straight ducts, elbows, 60 and 90 degree transitions) to a given airflow measurement (traverse) location.

Description:

Citation: Hickman, C., Beck, B. T., & Babin, B. (2015). Effect of fittings on volumetric airflow measurements (RP-1245): Single-path duct disturbances. *Science and Technology for the Built Environment*, 21(2), 190-206. doi:10.1080/10789669.2014.975058

Keywords: Thermodynamics; Construction & Building Technology; Engineering

Journal: *Science and Technology for the Built Environment*, **Volume:** 21, **Issue:** 2, **Starting Page:** 190, **Ending Page:** 206

Publication Date: 2015

Record URL: <http://hdl.handle.net/123456789/32355>

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Publisher URL: <https://doi.org/10.1080/10789669.2014.975058>

2. Which of the following statements best describes how you would feel if you were researching that topic and were to come across the result above?
 - I would be very pleased, because I would have learned that this research exists. The absence of a full content link would not bother me.
 - I would be somewhat pleased. I would be happy to have learned that this research exists, but would be a little frustrated at the lack of a full content link.
 - I would be neither pleased nor displeased.
 - I would be somewhat displeased. Although I would appreciate learning about this research, the lack of a full content link would be slightly frustrating.
 - I would be very displeased. The lack of a full content link would be very frustrating and would override any benefit of having discovered that this research exists.
3. Comments: (Open Response)

Influence of processing on pomegranate (*Punica granatum L.*) juice flavor and aroma

Koppel, Kadri; Chambers, Edgar, IV; Anderson, E. L.

BACKGROUND: The objective of this study was to determine the effect of technological treatment on pomegranate juice flavor characteristics, aromatic compounds and physicochemical properties. Fresh, fresh frozen, pasteurized and reconstituted juice samples were made from Wonderful variety pomegranates. The samples were analyzed for their flavor profiles, aromatic compound content and physicochemical parameters (total soluble solids, pH, acidity and total phenolic content). **RESULTS:** The results indicated differences among the samples' flavor characteristics. The most differentiated was the reconstituted sample with fermented and brown flavors, while fresh, fresh frozen, and pasteurized samples did not vary as much. Concentration of aromatic compounds was lower than expected. However, this finding was in line with the flavor profiles of the samples. Some flavors as well as total phenolic content were found to be lower than what has been previously reported, and this may be the result of a number of variables such as the season, growing region and subspecies of the fruit variety. **CONCLUSIONS:** Processing has an effect on pomegranate juice properties; however, the effect is different depending on the processing method chosen. Drying and reconstituting pomegranate seeds have an impact on flavor and aromatic compounds, as well as total phenolic content. © 2014 Society of Chemical Industry

Description:

Citation: Koppel, K., Anderson, E. L., & Chambers, E. (2015). Influence of processing on pomegranate (*Punica granatum L.*) juice flavor and aroma. *Journal of the Science of Food and Agriculture*, 95(5), 1066-1071. doi:10.1002/jsfa.6799

Keywords: Pomegranate juice; Flavor; Processing; Aromatic compounds; sensory properties; lexicon

Journal: *Journal of the Science of Food and Agriculture*, **Volume:** 95, **Issue:** 5, **Starting Page:** 1066, **Ending Page:** 1071
Publication Date: 2015

Record URL: <http://hdl.handle.net/123456789/32364>

Content Statement: This record does not contain the full-text. If available, click on the link labeled "Publisher URL" to see where the full-text of the item is located. If you are a K-State student, staff, or faculty, and unable to access the item, try searching for the item in Search It (<http://bit.ly/ksusearchit>) or ask a K-State Librarian (<http://www.lib.k-state.edu/ask-a-librarian>).

Publisher URL: <https://doi.org/10.1002/jsfa.6799>

4. If you wanted to obtain the full content of the article described above, what would you do? (Open Response)

5. How do you anticipate that adding results to K-REx for which no full content is available within K-REx would affect your ability to find scholarly articles authored by K-Staters?

Select one: (Likert Scale)

- Make it harder
 - (blank)
 - No effect
 - (blank)
 - Make it easier
6. Do you know of any concerns that faculty outside the library might have if we were to expand K-REx by adding results for which no full content is available within K-REx? If so, please explain. (Open Response)
 7. Do you know of any concerns that students might have if we were to expand K-REx by adding results for which no full content is available within K-REx? If so, please explain. (Open Response)
 8. Do you know of any concerns about how you or other library employees might be affected if we were to expand K-REx by adding results for which no full content is available within K-REx? If so, please explain. (Open Response)
 9. Any other feedback you would like to share? (Open Response)

APPENDIX B

**Portland State University Library's Citation Link Automation System for PDXScholar
(CLASP)**

Citation Link Automation System for PDXScholar

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- Mechanical and Materials Engineering - 2 articles
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New Articles

111 new articles

Actions	Exported	Feed	Article Link	Title	Authors	Article Department	Abstract	Disciplines	Comments	Create Open URL	Custom Citation	Document Type	DOI
Approve Reject View Metadata	No	PubMed	Link	Correlates of Motivational Interviewing Use Among Substance Use Treatment Programs Serving American Indians/Alaska Natives	New Authors <ul style="list-style-type: none"> • Gueto, R • Novins, DK • Dickerson, D • Moore, LA • Riedemann, T • Croy, CD • Verner, K • Moghaddam, J Edit Authors	Empty	View / Edit	Empty	Empty	Yes	Empty	citation	PubMed 28236017
Approve Reject View Metadata	No	Web of Science	Link	Technology Foresight: A Bibliometric Analysis to Identify Leading and Emerging Methods	Authors in System <ul style="list-style-type: none"> • Dam, Tugul U • Garces, Edwin • Gibson, Elizabeth Edit Authors	Empty	View / Edit	Empty	Empty	Yes	Empty	citation	WOS:000438332300001
Approve Reject View Metadata	No	Web of Science	Link	Workplace experiences and turnover intention among adult survivors of childhood cancer	Authors in System <ul style="list-style-type: none"> • Mathews, Larry New Authors <ul style="list-style-type: none"> • Conn, Deborah B • Ness, Kristen K Edit Authors	Empty	View / Edit	Empty	Empty	Yes	Empty	citation	10.1111/jmwh.12753
Approve Reject View Metadata	No	Web of Science	Link	Exploring Treatment Needs and Expectations for People Living with HIV in South Africa: A Qualitative Study	New Authors <ul style="list-style-type: none"> • Eamshaw, Valerie A • Bogart, Laura M • Cooney, Ingrid Edit Authors	Empty	View / Edit	Empty	Empty	Yes	Empty	citation	WOS:000439157400013
Approve Reject View Metadata	No	Web of Science	Link	Dropping Out of Socialism: The Creation of Alternative Spheres in the Soviet Bloc	New Authors <ul style="list-style-type: none"> • Ssemere, Anna Edit Authors	Empty	View / Edit	Empty	Empty	Yes	Empty	citation	WOS:000438522400021