

Columbia University Libraries

Mass Deacidification of Library and Archive Materials

Final Report to the Andrew W. Mellon Foundation
September 2009

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Columbia University Libraries received an award of \$27,500 in April 2008 from the Andrew W. Mellon Foundation to support a survey and report of the need for the deacidification of newly acquired print volumes in major research libraries. The study group included members from CLIR, NYU, Yale, and the Mellon Foundation.

In March 2009, the Mellon Foundation approved a no-cost extension through July 31, 2009 to host the originally scheduled March planning meeting in April and to allow additional time for the university's account department to process and pay all expenses charged to the grant.

The result is the attached report, *Mass Deacidification: The Need for a National Program*.

The principal investigator, Jim Neal, and Columbia's Office of the Controller worked together to complete the Financial Report, which was signed and submitted directly from the Office of the Controller. As indicated in the Financial Report, this grant was underspent by \$6,647 (including interest income of \$198), primarily due to significant savings in travel costs. A check in the amount of \$6,647 will be refunded to the Mellon Foundation.

MASS DEACIDIFICATION

THE NEED FOR A NATIONAL PROGRAM

REPORT OF THE STUDY GROUP
to the Andrew W. Mellon Foundation

Connie Brooks
Paula DeStefano
James Neal
Alice Prochaska
Hans Rutimann

September, 2009

Background

Research libraries in the United States have long observed the progressive destruction of primarily nineteenth and twentieth century paper-based collections due to acid decay. Papers lose their original properties, become brittle, turn yellow and become unusable. These conditions, it is projected, account for a significant level of the destruction of books and documents in library collections. The process of acidification is autocatalytic, that is, it accelerates over time.

Deacidification technologies have been demonstrated and used as an effective strategy for arresting the pace of paper decay. But experience has raised concerns about the safety, efficiency, affordability, durability, and collection impact of available techniques. During the 1980's and 1990's, U.S. research libraries expanded their investments in mass deacidification, but the amount of material treated has remained small compared to the scope of the acid paper challenge. The Bookkeeper process provided by Preservation Technologies is well-established and generally embraced in the U.S., Canadian, and European library communities, and Japan. There are other processes and companies active in Europe.

The earlier 2007 Mellon-supported study documented a significant decline in deacidification activity in ARL libraries. Concerns were raised about budget support, other pressing preservation priorities, need to invest in digitization, and the impact and cost effectiveness of deacidification. There is also a declining number of libraries that view the preservation of the original format for items in the general collection as a mandate. More libraries emphasize storage of collections in offsite facilities with improved environmental conditions as a preferred investment.

Furthermore, the study reflected some important concerns. The level of new material coming into library collections requiring deacidification treatments is still high, particularly items from outside North America and Western Europe, and archival manuscript collections. Surprisingly, there is also some preliminary evidence that volumes that claim to meet the standards for permanent durable paper do, in fact, contain acidic materials.

The members of the Study Group were:

Connie Brooks (CLIR and consultant)
Paula DeStefano (New York University)
James Neal (Columbia University)
Alice Prochaska (Yale University)
Hans Rutimann (Mellon Foundation)

The Study Group identified the following objectives for its work during the period of May 2008-August 2009:

- Document the flow of newly published works from North American, West European, and other world area sources that do not meet the standards for permanent durable paper.
- Convene a meeting in New York of research library administrators, preservation specialists, paper scientists, deacidification vendor representatives, and other interested parties to review the state of need, knowledge and commitment to mass deacidification.
- Develop a draft for the North American research library community for the mass deacidification of collections reflecting priorities for action and a business plan for effective advancement of the plan.

Modern Book Paper Project

Paula De Stefano and Grant W. Hamming, New York University

Survey contributors: Janet Gertz, Columbia University and Roberta Pilette, Yale University

Introduction

Recently there has been some concern among authors and other interested parties, including librarians and archivists, that book publishing companies in North America may be backsliding on their commitment to use only permanent, acid-free paper for at least the first run of their hardcover titles.¹ An analysis of the available literature suggests that there may indeed be cause for concern. This concern comes from two sources: the increasing use of recycled materials in paper production due to increasing concern for environmental issues, and the rising cost of publishing and subsequent attempts by publishers to cut costs.

Recycled Content of Paper

As recently as 1996 the paper industry felt little pressure to use recycled paper in the majority of its production. During the 1990s acid-free and permanent paper was the top priority, and paper makers and publishers were averse to using recycled paper because of concerns about cost, quality control, and inability to determine acid content of recycled paper. Indeed, since publishers were faced with little consumer demand for recycled paper in hardback books they continued to choose alkaline paper for their publications.²

¹ More specifically, it is the commercial publishing houses that are the cause of the concern. There seems to be little cause for concern from university presses, who were on board with the change to acid-free from the beginning and are not motivated by cost and profit to as large an extent as commercial publishers.

² Thomas J. Kraner, "Passing the Acid Test," *Publisher's Weekly* 234:34 (August 19, 1996. Accessed online via Galenet. Accessed September 11, 2008).

Much has changed since the 1990s, however. An explosion in public consciousness of environmental concerns has led many publishers to feel consumer pressure to improve their environmental practices. One aspect of this is to increase use of recycled paper.³ The Green Press Initiative (GPI), a non-profit company founded in 2001, is “dedicated to making book publishing a more environmentally sound process.”⁴ The GPI has garnered the support of 150 publishers.⁵ For environmental activists, recycled paper saves trees and energy; for the library community, recycled paper poses a serious risk to the longevity of the book. Paper fibers are drastically shortened in the recycling process and result in mechanically weaker paper and the chemistry is suspect. Yet, Random House and other major U.S. publishers have in recent years committed to using a much higher proportion of recycled paper in their products.⁶ In May of 2006, *Book Business* reported that Random House had committed to use 30% recycled papers in its books within 4 years as part of the Green Press Initiative. This increased use of recycled paper seems to have achieved widespread public support, but its impact on the permanence of book papers has yet to be determined.

Cost-Cutting Efforts by Publishers

Historically book publishing has been done on uncoated free-sheets which are manufactured using chemical pulping processes. This was primarily because uncoated groundwoods—mechanically pulped paper—were viewed as unstable and undesirable because

³ See Louise Story, “The Hidden Life of Paper and Its Impact on the Environment” for a persuasive report on the use of recycled papers in magazine and newspaper publishing. In *The New York Times* (Wednesday, October 25, 2006. Accessed online via ProQuest, September, 2008, Section C, Page 3).

⁴ Rachel Deahl, “Tyson Miller: Green Press Initiative Founder is Greening Publishing One House at a Time,” *Publisher’s Weekly* 255:10 (March 10, 2008): 53.

⁵ Ibid.

⁶ “Big News on the ‘Green’ Front,” *Book Business* (May 23, 2006. Accessed Online. www.bookbusinessmag.com Accessed September 11, 2008).

they often lacked both whiteness and brightness. Recently, however, technological advances, primarily in the bleaching process, have allowed paper companies to produce new types of uncoated groundwood that are much more attractive to the eye, and thus more attractive to publishers because of their lower price.⁷ Many major publishers have adopted these new papers, including Warner Books, Simon and Schuster, and Penguin Books. Tom Lysenko, vice president of business at Penguin Group, seemed unhappy with the change, but felt pressured by the market to adopt groundwoods.⁸

This change has strong implications for the preservation status of recently-published books. Uncoated groundwood does not meet ANSI standards for permanence because of its high lignin content. Many of these new papers are created with alkaline calcium carbonate as a sizing agent, which is intended to extend the longevity of these papers significantly by providing an alkaline buffer.⁹ However, there are several concerns with this process that have yet to be adequately answered. The processes by which acid turns a paper brittle and by which lignin oxidizes involve two separate chemical reactions. Even if a paper is properly buffered to maintain its alkalinity, it may still yellow considerably. This is unsightly and alarming to the consumer, especially given the history of the original brittle books crisis. In addition, the calcium carbonate buffers in these papers may be inadequate. Some testing suggests that the lignin in these papers quickly reacts with, and exhausts, calcium carbonate, and may be inadequate to conserve these

⁷ Trish Wales, "Paperwatch: Groundwood Comes Out of Closet," *Graphic Arts Online* www.graphicartsonline.com. August, 2008. Accessed September 11, 2008.

⁸ Steven W. Frye, "The Changing of Standards," *Booktech Magazine* (July/August, 2005. Accessed Online, September, 2008).

⁹ Calcium carbonate is the same alkaline sizing agent generally used in ANSI-approved papers.

papers over the long term. Much higher calcium carbonate contents might be required in these papers.¹⁰

Cost cutting measures and the use of recycled paper introduce changes in paper making practices that could have dramatic and long-term impact on preservation and conservation practices of U.S. libraries. The Mellon-funded survey of modern book papers, described below, was conducted to help determine the prevalence of acidity and lignin in recently published books.

Other Issues

There has been some concern in the pulp and paper industry lately about globalization and the relocating of paper manufacturing to Asia and Eastern Europe. Many Western European publishers have begun outsourcing their book printing to these new locations. It is unclear what, if any, paper standards these new printers follow.¹¹ This may have an impact on acid and lignin content of books printed in Western Europe and warrants continued observation.

Summary

There is significant evidence to suggest that the printing practices of book publishers in North America and elsewhere may be changing. These changes have a strong chance of negatively impacting the long-term conservation status of recently published books. In order to avoid a reprise of the brittle book problem of the twentieth century the situation should be

¹⁰ Ellen McCrady, "ASTM/ISR Paper Permanence Research," *Abbey Newsletter* 23: 1 (1999. Accessed online. <http://palimpsest.stanford.edu/byorg/abbey/an/an23/an23-1/an23-102.html> Accessed September 12, 2008).

¹¹ Justin Toland, "At the Sharp End of Globalization," *Pulp and Paper* (San Francisco. Vol. 82 No 2., 56. Accessed online via proquest. Accessed September 11, 2008).

monitored. The Modern Book Paper Survey was conceived as an important step in this process. What follows is a description of the survey and our findings.

Modern Book Paper Survey 2008: Methods and Findings

The survey of modern book paper described below was designed as an exploratory measure using lignin and pH pens to determine alkalinity and/or the presence of lignin in today's book paper. The libraries of Columbia, Yale and New York universities agreed to conduct random samplings of monographs from their collections using a common set of criteria and data points. Each of the three institutions chose a different year for their survey to avoid duplication: Columbia surveyed 1,200 books published in 2005; NYU surveyed 1,200 books published in 2006; and, Yale surveyed 1,287 books published in 2007. Further, each institution divided their group of 1,200 volumes into three subsections of 400 volumes to reflect books published in North America, Western Europe, and other remaining countries. The resulting data was aggregated and shared in a common database.

The three university libraries used their OPACs to randomly select and download titles into a Microsoft Access database. Abbey pH pens were used to indicate alkaline or acid neutral results. The pH alkalinity of the paper was tested in three places in each volume: verso of the title page, middle of the volume, and last page of the text block. Likewise, a similar test was done with an American Chemical Ground Wood pen. Abbey pH pen marks turn purple for neutral or alkaline paper. Lignin pens turn orange when lignin is present in the paper. It is important to note that testing for lignin and pH with pens is a quick, generally accepted method to determine the alkalinity of paper but is not scientific method of testing. As already noted above, this was an

exploratory survey meant to determine whether a broader and more scientific paper survey is needed.

In addition to pH and lignin testing, the survey also recorded the inclusion of an infinity sign and/or a statement that the volume was printed on acid-free, alkaline, or permanent paper. This information is often located on the back of the title page. Publisher, place of publication, and call numbers were also recorded for each volume.

Results

The percentage of alkaline volumes for 2005 (CUL), 2006 (NYU), and 2007 (YUL) were 84%, 89%, and 84%, respectively. Within area categories, 93% of North American publications were alkaline; 91% of Western Europe publications were alkaline; and, 73% of other countries were alkaline. The percentage of books testing alkaline in North America is consistent with commonly held assumptions within the preservation community. It was somewhat surprising to find publishers such as, Harper Collins, John Wiley & Sons, Scribner, and Viking Press, among those North American publishers using acidic paper (7%).¹² Call numbers suggest most of these fell into the subject areas of literature (especially PQ and PS), history and social science. Western European publications were slightly worse, but not as bad as expected: across all three years, 9% tested acidic. In the category for other countries, 27% tested acidic.

¹² In August 2005, Steven W. Frye named Warner Books, Simon & Schuster, and Peguin Books as publishers that had begun to use groundwood, but reported that HarperCollins and Random House had chosen not to; however, a year later, *Book Business* reported that Random House was committed to increasing the use of recycled paper for their books.

Test results for the presence of lignin were low, but not insignificant: the 2005 sample showed 7.4% of 1,200 volumes tested positive for lignin; in 2006, 9.8% tested positive for lignin; and, in 2007, 7.3% tested positive for lignin. These percentages are low, but when extrapolated to actual collections become more meaningful. For example, in 2006/07, NYU acquired 100,043 volumes. Averaging the above percentages for years 2006 and 2007 (8.55%) and extrapolating to the 100,043 volumes implies that as many as 8,554 acidic volumes may have been added to the collection in one year.

Geographically, the presence of lignin in the book papers tested was: 5.6% of North American publications; 7.6% of Western European publications; and 11.4% of books published in other countries.

The use of the infinity sign, permanent paper statements and alkaline paper statements seems to be falling by the wayside. The infinity sign and/or permanent paper statement appeared in North American publications sampled only 29% of the time, while an alkaline paper statement, included as part of the Library of Congress Cataloging-in-Publication Data, on the verso of the title page, was found in 44% books from the same sample. Books published in Western Europe and other countries, of course, rarely had these signs or statements.

Finally, the use of recycled paper was not investigated as part of this survey. However, one surveyor noticed a book published by the University of California Press in 2006 with a recycled paper statement on the verso of the title page: "This book is printed on New Leaf EcoBook 50, a 100% recycled fiber of which 50% is de-inked post-consumer waste, processed chlorine-free. EcoBook is acid-free and meets the minimum requirements of ANSI/ASTM

D5634-01 (*Permanence of Paper*). ∞”¹³ It was a relief to find the pH and lignin tests of the paper showed it tested positive for alkaline pH and negative for lignin, but it signifies that the “green initiative” in the book publishing industry is real and warrants further observation.

Conclusions¹⁴

The findings of the Modern Book Paper Survey are, on the whole, more optimistic than expected. Modern book papers used by North American publishers are largely alkaline and Western European publications, as well as publications from other countries are less acidic than was feared. Nevertheless, when extrapolating to the large size of research library collections, the combined amount of books that tested positive for acid and lignin indicate that geographically-driven mass deacidification efforts are a worthwhile approach to extend the life of book collections held by large research institutions.

¹³ Dror Ze’evi, *Producing desire: changing sexual discourse in the Ottoman Middle East, 1500-1900*, University of California Press, 2006.

¹⁴ Note: Paper testing pens are convenient and non-destructive tools for the laymen and suitable for a preliminary assessment such as this, but are not dependable enough to draw scientifically accurate conclusions. The tips of the pens can get contaminated and provide inaccurate readings and anecdotal evidence suggests that a mark made with an Abbey pH pen on the page sometimes changes from purple to yellow and *vice versa* after a three minute interval. It is possible allowing more time for pen tests may provide more accuracy.

Frequency Tables

Statistics

DatePub			Country	InfPPst	Alkpaper	Acidic	Lignin
2005	N	Valid	1200	1200	1200	1200	1200
		Missing	0	0	0	0	0
2006	N	Valid	1200	1200	1200	1200	1200
		Missing	0	0	0	0	0
2007	N	Valid	1287	1287	1287	1287	1287
		Missing	0	0	0	0	0

Country

DatePub			Frequency	Percent
2005	Valid	NorthAmerica	400	33.3
		Other	400	33.3
		WesternEurope	400	33.3
		Total	1200	100.0
2006	Valid	NorthAmerica	400	33.3
		Other	400	33.3
		WesternEurope	400	33.3
		Total	1200	100.0
2007	Valid	NorthAmerica	420	32.6
		Other	406	31.5
		WesternEurope	461	35.8
		Total	1287	100.0

Infinity Sign/Permanent Paper Statement

DatePub			Frequency	Percent
2005	Valid	0	1097	91.4
		1	103	8.6
		Total	1200	100.0
2006	Valid	0	960	80.0
		1	240	20.0
		Total	1200	100.0
2007	Valid	0	1200	93.2
		1	87	6.8
		Total	1287	100.0

Alkaline Paper Statement

DatePub			Frequency	Percent
2005	Valid	0	1077	89.8
		1	123	10.2
		Total	1200	100.0
2006	Valid	0	982	81.8
		1	218	18.2
		Total	1200	100.0
2007	Valid	0	1049	81.5
		1	238	18.5
		Total	1287	100.0

Acidic

DatePub			Frequency	Percent
2005	Valid	Acidic	193	16.1
		Not Acidic	1007	83.9
		Total	1200	100.0
2006	Valid	Acidic	124	10.3
		Not Acidic	1076	89.7
		Total	1200	100.0
2007	Valid	Acidic	202	15.7
		Not Acidic	1085	84.3
		Total	1287	100.0

Lignin

DatePub			Frequency	Percent
2005	Valid	No Lignin	1111	92.6
		Lignin	89	7.4
		Total	1200	100.0
2006	Valid	No Lignin	1082	90.2
		Lignin	118	9.8
		Total	1200	100.0
2007	Valid	No Lignin	1193	92.7
		Lignin	94	7.3
		Total	1287	100.0

Statistics

Country			Country	InfPPst	alkpaper	Acidic	Lignin
NorthAmerica	N	Valid	1220	1220	1220	1220	1220
		Missing	0	0	0	0	0
Other	N	Valid	1206	1206	1206	1206	1206
		Missing	0	0	0	0	0
WesternEurope	N	Valid	1261	1261	1261	1261	1261
		Missing	0	0	0	0	0

Infinity Sign/Permanent Paper Statement

Country			Frequency	Percent
NorthAmerica	Valid	0	861	70.6
		1	359	29.4
		Total	1220	100.0
Other	Valid	0	1206	100.0
WesternEurope	Valid	0	1190	94.4
		1	71	5.6
		Total	1261	100.0

Alkaline Paper Statement

Country			Frequency	Percent
NorthAmerica	Valid	0	683	56.0
		1	537	44.0
		Total	1220	100.0
Other	Valid	0	1201	99.6
		1	5	.4
		Total	1206	100.0
WesternEurope	Valid	0	1224	97.1
		1	37	2.9
		Total	1261	100.0

Acidic

Country			Frequency	Percent
NorthAmerica	Valid	Acidic	80	6.6
		Not Acidic	1140	93.4
		Total	1220	100.0
Other	Valid	Acidic	324	26.9
		Not Acidic	882	73.1
		Total	1206	100.0
WesternEurope	Valid	Acidic	115	9.1
		Not Acidic	1146	90.9
		Total	1261	100.0

Lignin

Country			Frequency	Percent
NorthAmerica	Valid	No Lignin	1152	94.4
		Lignin	68	5.6
		Total	1220	100.0
Other	Valid	No Lignin	1069	88.6
		Lignin	137	11.4
		Total	1206	100.0
WesternEurope	Valid	No Lignin	1165	92.4
		Lignin	96	7.6
		Total	1261	100.0

North American Research Library Deacidification Practices

The Study Group investigated in its 2007 project the level of mass deacidification activity among research libraries in North America as well as plans for future investment. This was viewed as critical for any consideration of introducing a new company into the North American mass deacidification marketplace.

Each year, the Association of Research Libraries publishes the results of the preservation survey of member institutions. This includes information about mass deacidification activities in two categories, that is, number of bound volumes and pamphlets, and linear feet of unbound materials. The data for the five-year period 2000-2001 to 2004-05 was reviewed, with the following results for the 115 institutions that reported.

The two institutions with the largest investment in mass deacidification were the Library of Congress and the National Library and Archives of Canada. The Library of Congress had expanded its program significantly, growing from 100,000 volumes in 2000-01 to 300,000 volumes in 2004-05, and also treating more than one million items of unbound materials over a sustained period. The Library of Congress was the dominant customer, and planned to sustain its activity. The National Library and Archives of Canada had reduced its level of activity from 44,000 volumes in 2000-01 to 10,000 volumes in 2004-05, combined with little to no activity with unbound materials. The future plans at the Canadian National Library were not clear.

Of the remaining 113 institutions, 81 or 72 percent reported no deacidification activity over the five-year period. The 32 libraries that were deacidifying collections were averaging together just over 50,000 volumes a year and just over 1,000 linear feet of unbound material a year. This translated on average to just over 1,500 volumes and 30 linear feet per institution. The fact is that only 14 libraries had sustained, substantive programs averaging together over

1,000 volumes deacidified per year. A significant level of the unbound material was being deacidified with in-house equipment, but this reflects single item treatment which is more costly as opposed to mass deacidification which is far more economical. And a substantial level of the deacidification work was supported by grant funding and not by the library budget.

The Study Group decided to gather further information about the deacidification plans of these ARL institutions. The 32 libraries indicating deacidification activity over the five year period (not including LC or NLAC) were contacted and 25 responded to the following questions:

- Do you plan to increase, sustain or decrease your investment in the deacidification of the collections in your library over the next several years?
- What are the primary reasons for this projection of deacidification activity?
- What will be the collection focus of your deacidification activity?

In response to the first question, five institutions indicated plans to increase, twelve to sustain, and eight to decrease investment in deacidification. This projection was very much influenced by the continuing availability or the loss of grant funds. The most influential factors were budgetary and plans to decrease were affected by the move of resources to digitization activities. The focus of continuing deacidification work was divided among general collection historical materials, special collections and unique items, and new receipts from developing countries.

The 81 libraries indicating no deacidification activity over the five-year period were contacted and 45 responded to the following questions:

- Do you plan to invest in the deacidification of the collections in your library over the next several years?

- If not, what are your primary reasons for not deacidifying your collections?

- If yes, what will be the collection focus of your deacidification activity?

In response to the first question, thirty-five institutions indicated no plans to invest in deacidification and ten institutions plan to implement on a limited basis depending on institutional budgetary support or grant availability. The libraries not planning any deacidification activity cited the following reasons in order of frequency: budget support not available, age of collection limits embrittlement problem, other more pressing preservation priorities, investing in digitization more important, investing in high quality offsite storage, staff expertise not available, no preservation program at library, question value and impact of deacidification. The libraries that plan to deacidify collections will focus overwhelmingly on special collections.

The Study Group reviewed the ARL preservation survey of statistics for 2007-08 (the most current reporting period) with the following results:

- Of the 111 libraries responding to the survey, 21 reported deacidification of bound volumes and pamphlets. Only 3 libraries reported deacidification of unbound materials.
- This represents a noteworthy decline from the 32 libraries that reported deacidification activity in 2004-05.
- In addition, the Library of Congress continues to advance major book (347,708 volumes) and unbound materials (503 linear feet) deacidification activity in 2004-05.
- In the 21 libraries, the number of bound volumes and pamphlets deacidified in 2007-08 was 53,394, just above the average of 50,000 per year for the five-year period 2000-01 to 2004-05, and a significant increase to about 2,500 volumes per institution.

Meeting on Deacidification

The Study Group convened a meeting of research library administrators, preservation specialists, deacidification vendor representatives, and other interested parties at Columbia University on April 16, 2009 to review the state of need, knowledge and commitment to mass deacidification. Attendees included the following:

Jim Bird
Preservation Technologies, L.P.

Bill Minter
Johns Hopkins University

Lisa Carter
North Carolina State University

Roberta Pilette
Yale University

Helen Cullyer
Andrew W. Mellon Foundation

Michael Ryan
Columbia University

Evelyn Frangakis
New York Public Library

Bob Strauss
Preservation Technologies, L.P.

Janet Gertz
Columbia University

Gary Strong
University of California at Los Angeles

Vanessa Height
Smithsonian Institution

Tom Teper
University of Illinois

Ken Harris
Library of Congress

Don Waters
Andrew W. Mellon Foundation

Thomas Jaeger
German National Library

Paul Whitmore
Carnegie Mellon University

The conversations were rich and wide ranging and covered the following topics:

- results of the modern book paper survey
- ARL library deacidification activity
- the conservation science research project at Johns Hopkins
- the insights of a paper scientist

- the publisher perspective
- the deacidification vendor perspective
- the German deacidification experience
- mass deacidification needs in North American research libraries
- strategies for educating research libraries and for encouraging participation in mass deacidification

The Study Group identified the following observations from the discussions as particularly relevant to its work:

- it will be valuable to continue to survey the status of new library acquisitions and their acid-free status and to discuss trends with publishers, particularly as recycled paper use expands and domestic publishers move operations off-shore
- the continuing decline in research library deacidification activity, particularly for unbound archival and manuscript materials, needs to be monitored
- there is a clear need for expanded investment in the science of conservation, particularly sustained support for the work of paper scientists working on plant fibers and polymer chemistry
- project funding rather than ongoing program funding continues to dominate library investment in deacidification
- there is a need for expanded discussion among special collection curators, collection development librarians, and preservation libraries to identify and advance priorities for preservation
- probable that general book deacidification will decline, and focus on special collections materials will expand
- the German study evaluating the impact of deacidification activity, including long-term efficacy and sustainability, should be available in mid-2010
- there are clear tensions in advancing deacidification investments: retrospective versus new collections, Western versus non-Western, books versus archives, general collections versus special collections, cool storage versus deacidification, collection of record versus collection of heavy use, coordinated effort versus collaborative effort, national versus consortial, faculty needs versus library needs, directors versus conservators and science versus speculation.

Recommendations

The Study Group carried out a survey of the status of paper in modern publications, reviewed trends in North American research library activity, and consulted with preservation professionals and paper scientists and deacidification vendors. On the basis of these activities, the following recommendations are presented as priorities for action:

1. Although deacidification has not been a high priority in the North American research libraries, there is a need to advance as an important tool in the suite of work to ensure perpetual access to paper-based collections.
2. Federal funding agencies and foundations need to establish ongoing programs that invest in research on science-based conservation.
3. The process of deacidification and digitization should be linked for materials to be retained as part of research library collections.
4. Institutional funding for deacidification needs to be integrated into ongoing budget support for collection preservation.
5. National and state funding programs for deacidification need to be developed and advanced in appropriate federal agencies.
6. The investment in the deacidification of special and distinctive collections, particularly archive and manuscript materials, needs to be expanded.
7. The financial health of the single deacidification vendor in the U.S. needs to be protected, and regional and local deacidification infrastructure and service capability needs broader implementation.

8. The best practices and improved testing methods for deacidification need to be developed and shared so as to maximize productivity and positive impact.

9. The development of a national program for last copy print repositories needs to be linked to expanded deacidification of these holdings as part of the insurance strategy.

10. Preservation and conservation must be sustained as a core component of professional library education programs, and conservation certification and specialist opportunities must be expanded.

11. A national policy and advocacy leadership forum or agency for preservation must be identified or created to promote policy, funding and collaboration strategies.