Computerized Inventory of Publications

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Computerized Inventory of Publications

Abstract
Computerized inventory control of publications became a necessity at the Canada Department of Agriculture because of the large number of titles on hand and the ever-increasing number of requests we receive.
Computerized Inventory of Publications

J.C.M. L’Arrivee

Computerized inventory control of publications became a necessity at the Canada Department of Agriculture because of the large number of titles on hand and the ever-increasing number of requests we receive.

Before going into the specifics of computerized inventory control, let me provide you with some background information and a few statistics.

Canada’s 22 million inhabitants depend on the Canada Department of Agriculture’s 10,000 employees to provide them with all the required federal agricultural services. These services range from pesticide licensing to supervision of racetrack betting, from animal disease control to development of new plant varieties, from food product inspection and grading to farm income stabilization and crop insurance programs, and from basic research to computerized farm management advice. The work of the Department not only touches the life of every Canadian, but it also has considerable impact on the international scene.

The Information Division, which is the public relations arm of the CDA, employs a staff of about 90 people of which fewer than 30 are Information Officers. This small group has the responsibility of disseminating new knowledge resulting from agricultural research conducted at more than 47 centers across the country. In addition, it keeps the agricultural industry and various agricultural Boards and Commissions fully informed about the policies and activities of the Department.

The Director of the Information Division is supported by two Assistant Directors — one for operations, the other for programs — plus an administration section.

The operations group deals with the media. It consists of an English and a French press unit, plus audio-visual, radio-TV, and other technical units dealing directly with the public.

The programs group deals with publications. It consists of an English and a French editing unit, plus periodicals, graphic design, research, and production units.

The Problem

We produce a large number of books, manuals, pamphlets, brochures, reports, bulletins, directories, and periodicals — in both official languages. Some 300 new, revised or reprinted publications are produced annually. This mass of technical and non-technical publications is then catalogued and stored in one of three storage depots.

Keeping track of the on-hand quantities of each publication, in each of the two languages, has been a monumental job — a time-consuming job full
of possible errors in tabulation. For example, sometimes we'd get a monthly report showing a deduction of 6,000 to 10,000 copies from non-existent stock or, at other times, we'd be surprised to suddenly find that we still had 4,000 or 5,000 copies when the records showed a nil balance. In the past, before computerization, we'd reorder a reprinting only after being told by the Distribution Unit that a particular publication was out of stock.

Departmental policy is that publications requested be made available at all times and without delay, of course, in the language requested. Needless to say, before computerization, many Canadians had to wait 2, 3 or 6 months for a publication. In a country such as ours, where the summer season is so short, any delay in receiving required information can be annoying for the farmer or consumer. Therefore, clearly something had to be done to improve the service to the Canadian public.

Enter the Computer

A suitable program using Fortran and our in-house facilities (keypunch, Cyber 72 'Control Data' computer, card reader and comter line printer) was designed for us by one of our programmers.

- The English and French titles of all our publications
- The number of the publication
- A receipt column for stock additions
- A discount column for publications sent out
- A 'reorder-point' column based on historical depletion rate (allowing for a 6-month reprinting time)
- The Julian date of the last entry for each publication.

This material provided us with two master lists: An English listing of 425 titles (see Table 1) and a French listing of 275 titles.

Table 1.

| ENGLISH PUBLICATIONS | PUBLICATION, DISCOUNT, REPRINTS | On-hand, Mainfile, Last Date |
|-----------------------|---------------------------------|-----------------------------|
| SOW AND WIND CONTROL FOR FARMSTEAD | 1976E 1975E 1974S | 6000 6000 6000 |
| COMPLEX OPERATIONS AND ADOPTION | 1976E 1975E 1974S | 6000 6000 6000 |
| CONTROL OF NEMATODES IN TOBACCO | 1976E 1975E 1974S | 6000 6000 6000 |
| FARM POTENTIAL OF THE CORS NORTHWEST | 1976E 1975E 1974S | 6000 6000 6000 |
| LMA GRAIN ELEVATORS | 1976E 1975E 1974S | 6000 6000 6000 |
| GROWING BUCKWHEAT | 1976E 1975E 1974S | 6000 6000 6000 |
| INSECT CONTROL OF GREENHOUSE WHITELFY | 1976E 1975E 1974S | 6000 6000 6000 |
| SAVIN FOF' THE WESTERN CANADA | 1976E 1975E 1974S | 6000 6000 6000 |
| NEW FRUITS FROM SUNSHINE D.C. | 1976E 1975E 1974S | 6000 6000 6000 |
| VITICULTURAL SANITATION | 1976E 1975E 1974S | 6000 6000 6000 |
| MANAGING CREEPS WHITENING PASTURES | 1976E 1975E 1974S | 6000 6000 6000 |
| ECONOMIES OF WINE PRODUCTION | 1976E 1975E 1974S | 6000 6000 6000 |
| WILD CAT GENET POOL | 1976E 1975E 1974S | 6000 6000 6000 |
| PASTURE CANADIAN VEGETABLES | 1976E 1975E 1974S | 6000 6000 6000 |
| VEGETABLE BLUEBERRY PRODUCTION | 1976E 1975E 1974S | 6000 6000 6000 |
| HOME STORAGE ROOM FOR FRUITS AND VEGETABLES | 1976E 1975E 1974S | 6000 6000 6000 |
| TOMATO DISEASES | 1976E 1975E 1974S | 6000 6000 6000 |
| BEEF CATTLE PERFORMANCE SELECTION | 1976E 1975E 1974S | 6000 6000 6000 |
| SLEEP DISEASES IN CANADA | 1976E 1975E 1974S | 6000 6000 6000 |
| FIELD SPRAYERS | 1976E 1975E 1974S | 6000 6000 6000 |
| DAIRY CIPS AND DRESSINGS | 1976E 1975E 1974S | 6000 6000 6000 |
| SION DISEASES | 1976E 1975E 1974S | 6000 6000 6000 |
| PLANNING AN ANTI-MONOPOLISTIC CAMPAIGN | 1976E 1975E 1974S | 6000 6000 6000 |
| WINE POLLUTION AND AGRICULTURE | 1976E 1975E 1974S | 6000 6000 6000 |
| GROWING SOYBEANS | 1976E 1975E 1974S | 6000 6000 6000 |
| IRRIGATION ON THE PRAIRIES | 1976E 1975E 1974S | 6000 6000 6000 |
| MANAGING A SMALL POULTRY FLOCK | 1976E 1975E 1974S | 6000 6000 6000 |
| FARM PASTURE PROTECTION OF CROPS | 1976E 1975E 1974S | 6000 6000 6000 |
| PASHING ON THE FARM | 1976E 1975E 1974S | 6000 6000 6000 |
| DISEASES AND PESTS OF POATATOES | 1976E 1975E 1974S | 6000 6000 6000 |
| SUNSHINE FIELD PEARS | 1976E 1975E 1974S | 6000 6000 6000 |
| BEEF PROOF IN THE ATL. PROV. | 1976E 1975E 1974S | 6000 6000 6000 |
| ALPINE VEGETATION FOR WS. CAN. | 1976E 1975E 1974S | 6000 6000 6000 |
| THE MITIC SYSTEM FOR FARMERS | 1976E 1975E 1974S | 6000 6000 6000 |
| DRAIN DIVERSITY | 1976E 1975E 1974S | 6000 6000 6000 |
| EGGS AND EGG PRODUCTS | 1976E 1975E 1974S | 6000 6000 6000 |
| BLACK FLIES | 1976E 1975E 1974S | 6000 6000 6000 |
| FUNERALS & WEDDINGS | 1976E 1975E 1974S | 6000 6000 6000 |

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Two other features were incorporated into the program: (1) the numbers of discounts were summed up to appear on the last line of each printout, and (2) an asterisk was made to appear in front of publication numbers when the ‘On-hand’ value reached a point below the ‘Reorder’ value.

Finally, both English and French master lists were subdivided into four sub-lists:
- Research Branch publications
- Information Division publications
- Consumer Division publications
- Reorder publications

The first three sub-lists are used to keep the major responsibility centers (contributors) informed on the current status of their publications, whereas the last sub-list is a summary of all asterisk-marked publications obtained from the two (English and French) master lists.

Operations

Raw data for the computerized inventory control is supplied by the Distribution Unit at weekly intervals. As requests for publications are filled, the number of publications removed from stores is tabulated for each publication (see Table 2).

| Pub. # | # sent | Pub. # | # sent | Pub. # | # sent | Pub. # | # sent |
|--------|--------|--------|--------|--------|--------|--------|--------|
| 9-12   | 15-16  | 17-20  | 21-24  | 25-28  | 29-32  | 33-36  | 37-40  |
| 1201   | 124    | 124    | 50     | 124    | 50     | 1385   | 100    |
| 1447   | 50     | 1460   | 100    | 1479   | 200    | 1481   | 25     |
| 1104   | 150    | 1396   | 50     | 1058   | 50     | 1551   | 50     |
| 1572   | 50     | 1370   | 50     | 1605   | 50     | 1574   | 50     |
| 1476   | 50     | 1590   | 25     | 1381   | 50     | 1451   | 50     |
| 892    | 100    | 1606   | 50     | 1611   | 50     | 861    | 25     |
| 1386   | 35     | 1595   | 40     | 1386   | 50     | 1461   | 25     |
| 1200   | 25     | 892    | 100    | 1591   | 25     | 1283   | 100    |
| 1577   | 25     | 1500   | 50     | 1399   | 50     | 5899   | 50     |

Once a week, usually on Monday, these tabulations are sent to our Keypunching Unit along with any new publication numbers and titles (see Table 3) and publication inventory changes (see Table 4). One or 2 days later, a weekly summary printout is received showing the total number of English and French publications sent by the Distribution Unit (see Table 5). Last year, some 3 million copies of various publications were sent out on request.

Computer printouts of English and French master lists as well as the four sub-lists are obtained twice a month (or more often, if desired). Printouts show cumulative values for discounts and receipts, which are zeroed out after each month-end printout.
Table 3. New Publications - Number and Title

| Program | Programmer | Date | Program Statement |
|---------|------------|------|-------------------|
| DP 62259 | C. O'Brien | 77.171 | FORTRAN CODING FOR |

- 1442E SWINE PRODUCTION AND MANAGEMENT
- 1442F PF PRODUCTION PORCINE ET SAGESTION
- 1608E ANNUAL FLOWERS FOR CANADA
- 1610E SHEEP HUSBANDRY IN ATLANTIC CANADA
- 1611E CLEANER FEEDLOT CATTLE
- 1612E LANDSCAPING THE HOME
- 1617E PHOTOS * BEEF CATTLE / LES BOVINS
- 1618E PHOTOS * DAIRY CATTLE / LA VACHE LAITIERE
- 1620E PLANNING YOUR MILKHOUSE
- 1636E CANADIAN CHEESE GUIDE

INFORMATION DIVISION
PUBLICATION INVENTORY CHANGES

| Year | Month |
|------|-------|
| 7    | 7     |

- 3.4.5.6

| Transaction Type | Pub. No. | E or F | RIC | On hand or number received | Reorder Point |
|------------------|----------|-------|-----|----------------------------|--------------|
| R                | 1538     | E     | 5   | 000                        |              |
| A                | 1628     | E     |     |                            |              |
| R                | 1505     | F     |     |                            |              |
| R                | 1539     | E     |     |                            |              |
| R                | 1558     | E     |     |                            |              |
| A                | 1544     | E     |     |                            |              |
| C                | 1592     | E     |     |                            |              |

Data Coding Instructions

1. Transaction Type:
   - A = Add
   - D = Delete
   - C = Change
   - R = Shipment received

2. Pub. No.:
   - Publication number

3. E or F:
   - E = English
   - F = French

4. RIC (used on Add only):
   - R = Research
   - I = Info Div.
   - C = Consumer

5. On hand or number received:
   - Enter the number on hand

6. Reorder Point:
   - Enter the number received

Table 5. Weekly Summary of Publications Sent Out

LAST UPDATE COMPLETED ON 77185 AT 13.09.25.
SUMMARY TABLE FOR PUBLICATIONS SENT OUT

|                         | ENGLISH | FRENCH | TOTAL   |
|-------------------------|---------|--------|---------|
| BULK ORDERS             | 61055   | 21211  | 82266   |
| SMALL ORDERS            | 11653   | 3075   | 14728   |
| TOTALS                  | 72708   | 24286  | 96994   |

UPDATE COMPLETED ON 77194 AT 11.05.07.
Based on the Reorder sub-list, an "Action Request" form is sent to the responsibility center for each publication in short supply. Usually, within 1 to 3 weeks we receive the financial authority to reprint, or within 2 to 4 months we receive a revised manuscript for printing.

**Costs and Benefits**

Since we have been using in-house computer facilities and our own keypunching personnel, the actual costs have been minimal. The weekly summary reports average $1 to $2 actual computer time (70 to 90 sec). The monthly and semi-monthly printouts also average between $1 and $2 each. These costs are absorbed by our Data Processing Unit. No estimate of costs for keypunching, machine rental, cards and printout paper have been calculated.

On the positive side we have the following benefits:
- We save about one man-year of clerical labor in data collection and tabulation.
- We have far more accuracy in the inventories of our more than 700 publications.
- We are able to maintain an almost continuous supply of each publication.

Therefore, as a result, we can render better service to our clients — which is our *raison d'etre* and our objectives.

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**Campaign Media Research Results**

David A. Zarkin

Taking the guess work out of publicity campaign planning is the result of three years of research by the University of Minnesota's Agricultural Extension Service for consumer-oriented housing short courses. In contrast to other AES programs, the housing curricula rely on user charges, publication distribution in excess of $10,000 annually, staff salary and overhead commitments of about $75,000 and in-kind contributions of about $250,000.