

Obtaining Cut Flower Production Records With A Computer

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Computers have recently been introduced into the floral industry. They are being used in the preparation of financial statements, and in some cases for production records and schedules. We at PPGH, using a computer and pre-punched IBM cards, obtain production records from a cut flower operation. The basic idea is not new; a similar method was explained by Hollberg in 1962 (1), and is utilized by Centralized Grading Inc. in Denver, Colorado. What differentiates our operation from Hollberg's is our use of a computer instead of tabulating equipment. Working with sufficient-sized quantities, this new system makes more practical the gathering and analyzing of more complete production records than could be expected of a non-computerized system.

Data Collection and Processing

At PPGH, all data is collected in the grading room. The operation of the grading room is much like that explained by Hollberg. Pre-punched IBM cards pass down a conveyor belt with a graded bunch of flowers. The cards identify the bunch as to its number, grade, grader, cutter, variety, and growing location. The cards are accumulated at the end of the belt and sent to be processed at the end of the day. After processing, the cards are re-used.

The collected IBM cards are taken daily to a local bank that rents time on its IBM 360 Mod 30 computer. The bank furnishes the special program, the computer and operators and some accessories, for a flat fee per month. For this the greenhouse gets a daily, a ten and twenty-day, a monthly, and a year-end report. These reports contain varying amounts of information.

Reports

Since the daily report contains the largest amount of information, it will be used in the explanation. The other reports are similar but omit those parts of the daily report that are useful only in day-to-day operations.

Figure 1 shows a typical part of the report: the greenhouse section. The section is divided down the page by greenhouses and across the page into grades and totals. The first data column is the Quality Index, or mean grade. A quality index of 4.2 shows that the graded flowers averaged slightly better than Standards. The next six columns show the amount of flowers in each grade and what percent this represents of the total. The column labeled "Total" shows the sum of all flowers from all grades, except discards; otherwise, the Discard column is treated as though it were a grade. In the grading room, those flowers which are not gradeable are de-headed and put into an unbunched pile of twenty-five on the conveyor belt with the proper IBM cards. At the end of the belt, the cards are collected and the flower heads thrown away.

6 PRODUCTION TALLY - PIKES PEAK GREENHOUSES
03/21/75 DAILY REPORT

*** CARNATIONS ***

GR	QUALITY INDEX	VARIETY	STANDARD	SHORT	SPLIT	DESIGN	TOT SALE	DISCARDS	PERCENT	AV
4.10	1	925 548	325 198	300 128		150 48	1700		5.26	551
4.40	2	1400 638	700 278	200 88		50 28	2550		5.75	259
4.27	3	1075 828	300 178	225 138		125 78	1925	25 18	3.25	250
4.50	4	1525 828	600 328	300 128		25 18	2450	50 28	6.84	317
4.12	5	825 468	600 338	275 128		100 58	1800		3.22	358
4.00	6	900 358	725 318	675 288		75 38	2575		4.84	343
4.27	7	775 618	250 208	225 188		25 28	1275	25 28	6.02	253
4.44	8	1675 848	375 228	175 108		50 28	1575		4.65	358
GRADE TOTALS										
4.26		8700 568	3875 258	2375 158		600 48	15550	100 18	31.55	605

Figure 2 The grader section of the Production Tally Daily Report at PPGH.

The grader section, Figure 2, is divided down the page by graders and across the page the same as the greenhouse report. In addition, this report shows the total time spent grading, and the average number of flowers graded per hour, useful in determining the efficiency of the graders. There is, in addition, another report which shows the bonus pay that was made by each grader for that day. The formula for the bonus pay is much like the one presently being used by Centralized Grading, Inc., and is based on the quantity and quality of grader output.

The cutter section (not illustrated) is identical to the grader section except that the information provided is for cutters. From this, the quality and quantity of their cutting is obtained. If a workable formula were found, cutters could also be put on a bonus pay scale.

Another section is divided down the page by variety, and across the page in the same way as previous sections. This comparison of varieties will show which yields the highest rate of return. Instead of the variety report, this section could be modified for a bench report, depending upon whether information is desired for each individual bench or for each variety.

Since PPGH produces more than one kind of flower, our system has been expanded to give production records for roses, mums, pompons, daffodils, and irises. The rose information is essentially the same as for carnations but the others are treated as Miscellaneous crops and only totals are collected.

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*** GREENHOUSE ***

GR	VARIETY	STANDARD	SHORT	SPLIT	DESIGN	TOT SALE	DISCARDS
4.44	8	1400 768	300 168	125 78		25 18	1850
4.12	9	1175 828	125 58	125 58			1425
CUTTING TOTALS							
4.44		2575 768	425 138	250 88		25 18	2275
4.11	10	2425 458	2000 318	1350 208		300 58	4925
4.32	11	2325 578	1100 278	525 138		150 48	4100
4.12	12	875 538	350 218	300 188		125 88	1650
DISCARD TOTALS							
4.12		6125 508	3450 248	2125 128		375 58	12275
BENCH TOTALS							
4.26		8700 568	3875 258	2375 158		600 48	15550

Figure 1 The greenhouse section of the Production Tally Daily Report at PPGH.

^{1/}Pikes Peak Greenhouses, Colorado Springs, Colorado.

Conclusion

The system outlined is as it was originally planned. To facilitate the transition, PPGH is now utilizing only the Greenhouse, Grader, Miscellaneous, and Bonus sections of the report. The Cutter and Variety sections will be added at a later date.

There is a question as to whether the cost of running this system may in the long run be justified. The cost is now no lower than for compiling the information by manual methods; however, there are two main advantages. In the first place, records are no longer dependant on a single individual, thus avoiding a bottleneck in case of his absence; and secondly, there is a potential for additional information which could increase the efficiency of cut flower production.

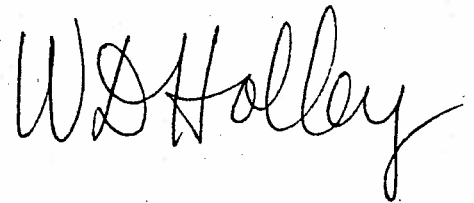
Fifteen months after its inception, a cost study was made contrasting this computer system with the previously used McBee manual data collection system. We now feel that the production needs for a computerized system to be economically feasible are approximately 25,000 flowers per day. Production increases would prove more efficient.

The largest single obstacle that we have faced since implementing this system has been the reluctance of a data processing center to handle such a small account. Most likely, this is not a general problem and may even correct itself after we have made some modifications.

Literature Cited

1. Hollberg, John J. 1962. The Use of IBM and Conveyor Belt in Grading Flowers. Colorado Flower Growers Association Bulletin No. 143.

Your editor,



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