



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

UNITED STATES DEPARTMENT OF AGRICULTURE
Agricultural Research Service

COIN-OPERATED DRYCLEANING

Talk by Lucile F. Mork
Consumer and Food Economics Research Division
at the 40th Annual Agricultural Outlook Conference
Washington, D.C., 10:45 a.m., Friday, November 16, 1962

Coin-operated drycleaners are sprouting all over the country. They are located in shopping centers, supermarkets, or just the empty store in the middle of the block. This do-it-yourself type of drycleaning is still a young industry and growing rapidly.

Coin-operated machines were first introduced in Little Rock, Arkansas in 1959, but they didn't receive national promotion until a year later. By 1961, there were about 20,000 machines in 2,400 establishments. 1/ Today, in the United States, there are at least twice this number of establishments with anywhere from 2 to 32 machines each, and the number of establishments is increasing daily. 2/ Some of these machines are located in stores devoted entirely to coin-operated drycleaning, a few are located in commercial cleaning shops, and others are combined with automatic laundry centers.

With the increase in number of coin-operated machines, consumers have been dropping more coins into them to dryclean their clothes. In 1960, consumers inserted \$1 million worth of quarters; last year they inserted about \$50 million. For the current year, consumers are expected to deposit more than \$100 million, according to the National Automatic Laundry and Cleaning Council (trade association of manufacturers and distributors of coin-operated cleaning machines). 3/

This fast growing drycleaning business has meant tremendous gains for equipment and chemical makers. Coin-operated drycleaning machines are chalking up sharper sales gains this year than any other product manufactured by the appliance makers. 4/

New laws sought

Rigid regulations for coin-ops (as they are called for short) exist in some areas. In New York City, for example, regulations limiting the number of machines that can be installed under one roof, make it impossible to install large, economical coin-operated centers. 5/ Zoning changes now under study may eventually relax the regulation.

1/ Chemical and Engineering News, p. 21. August 27, 1962.

2/ Financial World, p. 4. September 19, 1962.

3/ Ibid.

4/ Wall Street Journal, p. 26. September 6, 1962.

5/ See footnote 1, p. 22 of reference.

In California, coin-ops are regulated by the State's Drycleaning Board. The board says coin-operated, like other cleaners, must be attended by someone with an operator's certificate. The usual requirements for a certificate include a year's experience in drycleaning and an examination. At last count, there were less than 100 establishments in the State, says NALCC.

Problems abound across the country. The National Automatic Laundry and Cleaning Council is attempting to have some of the rules modified without risking public safety, and reports it is making progress. In the past 18 months, more than one-fourth of the States have adopted safety codes that regulate such items as ventilation and solvent use. A number of States insist that attendants be present when machines are in operation.

How machines work

The coin-operated drycleaning machines, styled to resemble home washer-dryer combinations, work on the general principle of commercial drycleaning equipment. Most of them handle an 8 to 10 pound load; the consumer puts the articles to be cleaned in, inserts the required number of quarters into a coin slot (depending on local charges), and the machine takes over, agitating the articles in cleaning solvent, removing the excess solvent, and drying the load. Most of the machines that have been in use to date circulate the solvent through filters to clean and purify it before returning the solvent to the storage tank. All machines are supposed to have safeguards to keep toxic fumes from the user. Some companies also have hand-operated prespotting devices which spray spot stains with a fine mist of water or other liquid before the clothes enter the hopper. The articles come out dry and ready to take home.

Drycleaning systems

Two drycleaning systems are now available. The first system--the one predominately in use--uses perchloroethylene (called Perc in trade lingo) as the cleaning solvent. It was this solvent that permitted the development of the coin-operated drycleaner. Perc is nonflammable, has an acceptable toxicity limit, and does not harm acetate dyes. The cycle time for most perc-using machines ranges from about 45 minutes to more than one hour for completion of the cleaning-drying cycle. Fifteen minutes of this time is for cleaning and the remainder for drying. The machines are not used steadily all day, but there are peak periods when all machines are in use and some people waiting for a machine. A faster machine cycle would obviously make possible more loads per day. The somewhat limiting factor with perc as the solvent is its rather low evaporation rate.

Shorter cycle made possible.--The second system, until recently in the experimental stage, does not use perc as the cleaning solvent, but instead uses a fluorocarbon cleaning solvent which is of a completely different type. This solvent can reduce the drycleaning cycle to little more than the time required for cleaning (15 to 20 minutes) because it evaporates very rapidly at room temperature. One of the large chemical companies has developed a drycleaning fluid based on this cleaning solvent. It is sold under the name of Valclene.

Valclene also contains a detergent, a fabric conditioner, and an anti-static agent; and is said to minimize soil depositing and fabric shrinkage. Its action on fibers, fabrics, colors, and finishes has been observed and found to be satisfactory. ^{6/} It has also been successfully used experimentally on plastic materials, adhesives, and rubber compounds that are used in the make up of many garments. (Perc has been found to dissolve some plastic buttons and buckles, and garments with rubber survive relatively few cleanings with perc.)

Little or no heat is needed to evaporate Valclene. This high volatility is very desirable from the point of view of drying time. But the machine must be tight as a compressor to hold it. Making a machine tight enough to contain such a liquid is very expensive. Machines that use perc can't use Valclene. The solvent also is very high priced, compared with perc, so that high solvent losses cannot be tolerated.

Only two manufacturers make machines that take Valclene. By comparison, at least 25 companies make perc-using machines, although 10 companies probably make 80 percent of them.

Of the two manufacturers making Valclene-using machines, only one was ready to begin deliveries this fall. The other is still experimenting with their machine and has not set a target date for full-time production. The machine on the market uses a blast of room-temperature air (hot air is not necessary as in the case of perc) to drive off the solvent; it recovers the evaporated solvent through condensation, but with an important intermediate adsorption stage. In effect, the solvent is distilled each time the machine is used; thus filters and pumps are not needed.

Cost of cleaning may be higher.--Since Valclene is higher in cost than perc and the machines to use it more expensive to make, the cost of cleaning to the consumer may be higher. At least one large manufacturer of drycleaning equipment believes that this cleaning fluid will not replace perc, but that it will find usage when the consumer wants faster service and is willing to pay for it.

Valclene-using machines cost about \$4,000 compared with \$2,500 for a perc-using machine; the basic solvent costs between \$8 and \$9 per gallon compared with \$2 for perc. ^{7/} Producers of the Valclene-using machines point out that the higher costs are outweighed by their higher output. Because of their shorter cycle six of the machines do the work of 16 perc-using units.

Other manufacturers cut time

Makers of perc-using drycleaning machines are counterattacking by reducing the time cycle of their units, even though they point out that coin-operated machines are in use only 30 to 40 percent of the time. One maker was ready to put a new variable-cycle drycleaner model on the market this fall that reduces the time cycle to about 30 minutes. This perc-using

^{6/} Textile Industries, p. 101. July 1961.

^{7/} Chemical Week, p. 56. September 1, 1962.

machine has a device called "DryTrol" that regulates cycle time by measuring the amount of solvent remaining in the drycleaning load and automatically timing the cycle until the load is dry. The company is also making a conversion kit (\$150 each) that can be used on older machines to reduce the time cycle.

Other companies have also been whittling away at the drycleaning time of their machines. Some claim to have cycles of less than a half hour. The shorter cycle of these machines has been achieved by more efficient heating, air flow, and drying.

An additional incentive to reducing the cleaning-drying cycle may be the spreading of coin-operated machines into service stations, apartment houses, dormitories, and even parking lots. If consumers are to be persuaded to use machines in some of these locations, an important factor could be the time required.

Conclusion

Coin-operated drycleaning is probably here to stay. As long as consumers are satisfied with this type of service and it is profitable to investors, the industry is likely to continue to expand. It has been predicted that about four times the number of machines in use today will be operating in the United States within the next 3 or 4 years. Canada already has machines in use and at least one appliance maker is eyeing Europe as a market.

Coin-operated drycleaning appeals to consumers in two ways--its economy and its convenience. Coin-operated drycleaning can probably save consumers a good deal of money. Some families may wish to use the coin-operated service for only a part of their drycleaning and continue to send some items to their regular commercial service.

Coin-operated drycleaning can be a boon from the standpoint of convenience. A person can use the service, go on to other errands, come back pick up the items, and take them home in the car. Many garments such as skirts, sweaters, jackets, children's snowsuits, and simple dresses can be cleaned in a coin-operated machine and worn without pressing or with only touch-up pressing. Draperies and slip-covers usually do not need to be pressed.

Some improvements to look forward to are: Improved spotting service (perhaps attendants who are experts in the art of spotting), more pressing service offered on the premises (at an added cost, of course), and continued effort on the part of machine makers to make more efficient machines.

The present cost of coin-operated machines rules out home units at this time, but one company has already said that they are only about 5 years away. One possibility is a combination washer-dryer-drycleaner.