

WESTERN PETROLEUM REFINERS ASSOCIATION

Organized 1912

TULSA, OKLAHOMA

TO MEMBERS:

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THOMPSON-TOLEDO-VITAMETER

On September 15, 1948 Vitameters were placed on sale to the public in Cleveland, Ohio. The Pure Oil Company, Shell Oil Company, and Standard Oil Company (Ohio) cooperated by displaying swing board signs at their stations of a Vitameter mounted on a cardboard panel and banners. In addition, descriptive folders were available and Vitane (then named Vitol) was sold in quart cans. Vitameters were installed chiefly at car dealers and repair shops. Newspaper, radio, and billboard advertising was used, however, newspaper advertising was the most effective form of acquainting the public with the Vitameter.

The Vitameter sold at retail for \$29.90. After installation and first fill of Vitane, the total cost to the consumer was approximately \$35.00. Vitane sold for \$1.20 per gallon in quart cans. Based on gasoline the costs to the consumer were as follows:

<u>Vitane consumption as</u> <u>per cent of gasoline</u>	<u>"Vitane cost per gallon</u> <u>of gasoline</u>
1	1.2 cents
2	2.4 cents
3	3.6 cents

The Vitameters sold were set to give ten or more Research Octane numbers on top of regular grade gasoline and eight above most premium fuels. The average car used Vitane equal to about two per cent on gasoline so the cost of octane numbers represented by purchase of Vitane were competitive with the octane numbers as represented by the difference between regular and premium gasoline. However, octane numbers on top of premium gasoline were available only with the Vitameter.

After five months of sales effort 2,053 Vitameters were in use in the Columbus, Ohio area, and 14,000 gallons of Vitane had been sold in a market of 90,000 vehicles or approximately 2.27 per cent of the car population had purchased Vitameters. The average Vitameter equipped car will use about one gallon of Vitane per month.

In view of the above reported information, the Western Petroleum Refiners Association recently sent an observer into the Columbus and Cleveland, Ohio areas to gain firsthand information which would substantiate the above. His report follows:

"In Columbus, Ohio, the manager of the Green Cab Company was interviewed. This company installed approximately fifty Vitameters on Dodge cars operated in taxi service in Columbus, Ohio. These Vitameters were purchased at a special price of about twenty-two dollars each. Vitane was purchased at fifty cents per gallon. After five months of operation with the Vitameter they were removed from service. Reasons given for this action being that the additional fuel costs in their particular operations were not justified.

"(a) Differential in fuel costs of third grade gasoline (leaded with 0.5 cc per gallon T. E. L.) and regular or house brand gasoline was only 0.5 cents per gallon less; and his company purchases approximately 500,000 gallons of gasoline per year.

"(b) Use of the Vitameter entailed the assignment of one man full time to service the Vitameter and fill the small separate Vitane fuel tank.

"(c) Taxi cab engines are removed from service after 100,000 miles of operation and exchanged for a new motor. New engines are available at a net cost of approximately \$164.00 which eliminated the need for engine overhaul at certain periods.

"(d) In view of the above conditions, his fuel costs per gallon of fuel were about one and three-fourths cents per gallon more when using the Vitameter than when using regular gasoline without the Vitameter.

"NOTE: Vitameters installed on the Green Cab Company fleet were returned to Thompson-Toledo Vitameter Corporation as per agreement."

In an interview with the manager of gasoline sales for one of the companies named above operating in the Columbus area regarding sales of Vitane in his company's dealer stations, certain views were expressed which are as follows:

(a) The Vitameter has a definite application to certain types of service with beneficial results.

(b) His estimate as to the number of Vitameters still in service after the first year of operation was approximately sixty per cent of those sold during the first five months.

(c) Reasons given for removal from service were new car purchases by the public, and subsequent failure to remove Vitameter from the car traded in; and failure of new owner to continue his purchase of Vitane. He also felt that inconvenience and additional cost to car owner exerted influence.

(d) He felt that future sales of Vitameters would continue at about one per cent or slightly above based on car population and depending on availability of

higher octane fuel which has been visioned by some as necessary for the satisfactory operation of the higher compression engines.

(c) Sales of Vitane by his company in the Columbus area for the four months period ending September 1, 1949 was approximately 1,500 gallons.

At the present time the Thompson-Toledo Vitameter Corporation is engaged in a second sales campaign in the Cincinnati, Ohio area. The terrain in and around Cincinnati is different from that in the Cleveland area and it has quite a few hills. This is believed to contribute to the fact that sales of premium gasoline are higher in relation to total gasoline sold than in any other area in the state. Preliminary reports indicate that sales of the Vitameter and Vitane during the sales campaign are about as expected and correspond closely to the results obtained in the Columbus area running approximately two per cent in relation to car population.

A number of automobile companies are continuing their test work on the Vitameter; however, at this writing none have adopted it as standard or optional equipment.

Reports from the Cleveland area where a number of private car owners have installed the Vitameter on their cars seem promising. Some automobile distributors have successfully eliminated customer complaints by installing the Vitameter on some of the later model cars which have slightly higher compression ratios, and which had a tendency to knock on the premium fuels available. In some instance, complaints were eliminated by spark adjustments, however, in those cars where this failed the Vitameter was installed with good results.

The Yellow Cab Company, Cleveland, Ohio, has completed a number of tests using the Vitameter on taxis and airport limousines. The reports are quite satisfactory and indicate certain beneficial results in the use of the Vitameter. Data on these tests are given in a paper entitled "Fleet Application of Anti-Detonant Injection" which was presented before the Society of Automotive Engineers at the December 13, 1948 meeting held in Cleveland, Ohio. Co-authors on this paper were J. T. Smith, President, Yellow Cab Company, Cleveland, Ohio; G. N. Shaw, Supt. of Maintenance, Yellow Cab Company, Cleveland, Ohio; and G. H. Van Hartesveldt and W. E. Kilgore of Thompson-Toledo Vitameter Corporation, Cleveland, Ohio.

Latest engineering developments in connection with the Vitameter provide for a differential control which cuts off the Vitane at high engine speed thus reducing appreciably the amount of fluid used. This is accomplished by using a combination of carburetor venturi vacuum and manifold vacuum for the force controlling the Vitameter main valve. Details of this development may be found in a paper entitled "Anti-Detonant Injection From A Fleet Operators Viewpoint" by A. T. Colwell which was presented at the August 15, 1949 meeting of the S. A. E. at Portland, Oregon.

Within the near future the Vitameter will be offered for sale on a state-wide basis in Ohio.

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