

the utilization of the operations at one point with the assurance
of continuous production, whereas production of butadiene and styrene
from an alcohol base would be contingent on a ready supply of tankers
and tank cars.

In attending the cracking facilities of one of Canada's largest
refineries it was found possible to obtain the desired quantities of
these gases for which a limited use had previously been found, namely,
ethylene, acetylene and butylene, on a relatively low cost basis.
These gases are then transferred by pipeline to nearby styrene, butadiene
and 1,3-butadiene plants, without cost, complications, difficulties
and dangers which might be involved in their transportation by tank
cars. The same raw material in the production of butyl rubber is also
butylene, a basic gaseous hydrocarbon collected directly from the
refinery-gas stream and polymerized directly into synthetic rubber. At
the present time, butyl rubber is not suitable for the outer casing
of tires, since it does not withstand abrasion, but it is more suitable
than SBR for certain other commercial uses. Practical applications
of butyl rubber have been comparatively few since there had never been
a pound of butyl made in Canada outside of laboratories and pilot
plants before the fall of Singapore.

The production of synthetic rubber from wheat the method
most widely discussed was to produce alcohol and then to make buta-
diene from the alcohol. It has been estimated that the cost of
production of industrial alcohol from grain at 80 cents a bushel would
be from 50 cents to 60 cents a gallon, with the cost of compression
also estimated at approximately 15 cents to 17 cents a gallon. Various
other costs are taken into account it would require that, as a practical
proposition, grain be purchased at a price from 25 cents to 30 cents a
bushel. The production of butadiene from a petroleum base does not,
however, preclude the possibility of using an alcohol base at some
future date should it be found economical and advisable to do so. It
is estimated that a gallon of alcohol yields approximately 2.75 pounds
of butadiene, and that the theoretical yields of butadiene from alcohol