

The Importance Of Quality In Fish Oils For Feeding

Must Be Well Supplied With Vitamins A and D.

By H. S. GUTTERIDGE,
Central Experimental Farm,
Ottawa, Ontario.

Since fish oils are fed primarily, not as sources of fat, but as vitamin containing supplements, the first essential is that they be well supplied with the fat soluble vitamins A and D. At the present time there is but one acceptable and practical way of determining the potency of any oil in this respect, namely, through feeding the oil to small laboratory animals, preferably chicks, on rations devoid of these vitamins and ascertaining the number of units of each vitamin present. This constitutes a biological test and biologically tested oils are available on the market. At the present time by this method of testing only, can the vitamin content of any substance be ascertained.

As is often the case, however, fish oils may be high in vitamin content but may possess other physical or chemical properties which make them unsuited for consumption. In the past, because oils high in free fatty acids have been deleterious when fed to chicks, a high content of these acids was considered to be an indication of an unsatisfactory oil. Investigators, however, have been unable to show that free fatty acids in fish oils are harmful. Recent research work, at the Poultry Division of the Central Experimental Farm, has indicated that fish oils of poor quality may contain certain poisonous substances which are detrimental to growth, uniformity and egg production of chickens. It was also found that in most cases oils which are high in free fatty acid content are also high in these poisonous products, although this is not necessarily always the case. These substances are nitrogenous in nature and originate through decomposition of liver or other body material in the oils, by enzymes and bacteria. They are apt to be present in comparatively large amounts when stale livers are used for rendering oil or when oils are not carefully rendered and contain liver material. The same conditions usually bring about a high free fatty acid content of the oil. Hence, oil made by the sun-rendering process will usually be high in both toxic nitrogenous products and free fatty acids while steam-rendered oils will usually not be so, unless made from stale livers. It follows therefore, that an oil high in free fatty acids and nitrogenous products has either been poorly processed, or made from stale fish materials, or both, and should not be purchased.

The effects of these poisonous products may vary from only a slight one on growth, uniformity and egg production to very serious stunting of growth and high mortality, depending upon their concentration. Oils sold by reliable dealers are usually of a stated free fatty acid content and the purchaser should, therefore, buy only oils of low content (two to four per cent, or less) since this constitutes the only means of estimating these toxic products, at present available.

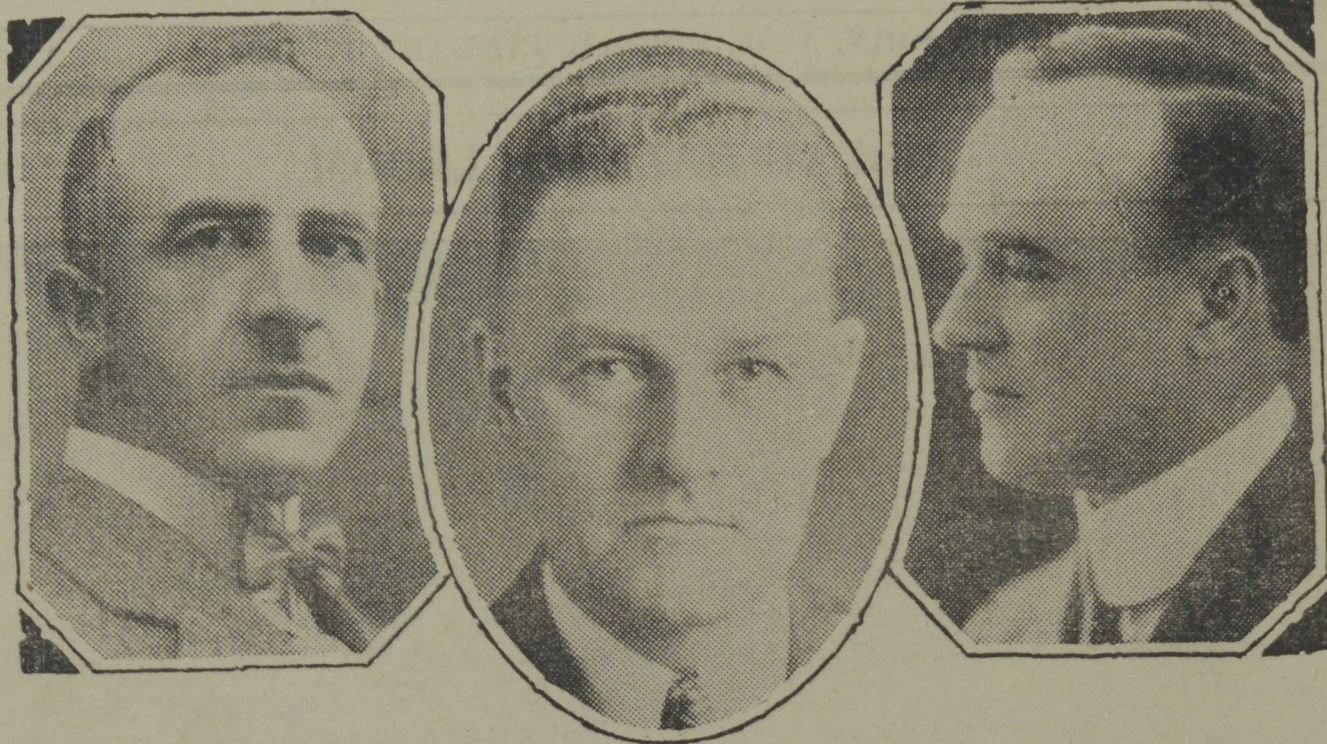
IN THE CATTLE COUNTRY

The stockyards at Williams Lake, B.C., lie in the centre of a miniature empire, with the Cariboo country to the east and the Chilcoteen country to the west. An idea of the size of this territory may be gauged from the fact that it takes three weeks to drive cattle to the stockyards from the more remote ranches, while the bulk of the cattle which comes from the west of the Chilcoteen River requires ten days to take the trip.

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AGRICULTURE

MAY ADDRESS LIVE STOCK BREEDERS' CONVENTION



When the Live Stock Breeders gather at Saskatoon on January 22nd for their annual convention they will hear important addresses from the above officials. Left to right—DR. E. S. ARCHIBALD, Director of Experimental Farms, Ottawa; HON. J. G. TAGGART, Minister of Agriculture for Saskatchewan, and F. H. AULD, Deputy Minister of Agriculture.

Some Grasses For Use on Home Lawn Are Enumerated

Experiments Have Been Carried Out With Various Types.

By L. C. YOUNG,
Dominion Experimental Station,
Fredericton, N. B.

The term lawn is a general one, but here it is being restricted to refer only to the average rural or urban lawn in contrast with the specialized lawn such as the bowling green or golf course. This distinction is being made because certain grasses, which thrive under specialized conditions, will not succeed under conditions existing on the average home lawn.

In order to appraise the value of any grass, it is essential to know the characteristics that an ideal lawn grass should possess. Briefly, these are as follows: An ideal home lawn seeding must possess the ability to produce a firm, even sod, of uniform texture and good color; it must be adaptable to a wide range of soil and climatic conditions; it must be permanent, lasting over a long period of years; it must be aggressive, rapidly colonizing vacant areas, and thus preventing the invasion of undesirable grasses and weeds; it must possess the ability to withstand drought and the ability to thrive without too much attention.

Lawn grasses may be grouped broadly under three general headings, the bent grasses, the blue grasses and other grasses. Of all grasses, Kentucky blue grass most nearly approaches the standard of the ideal lawn grass. It thrives under a great range of soil and climatic conditions, and is resistant to drought, but naturally reaches its best development in a rich, moist soil. It has been reported from various quarters as not thriving in acid soil, but this has not been the case at the Dominion Experimental Station at Fredericton, N.B., where fertility and not acidity has proven to be the limiting factor.

Kentucky blue grass produces a firm even sod of fairly fine texture, though of course, not as fine as the bents. It is durable, permanent and aggressive, and requires the least care of any lawn grass. It is relatively inexpensive. It is recommended as the most generally suitable lawn grass for Eastern Canada. Colonial bent

FIELD CROP VALUES

THOUGH the value of the principal field crops of Canada in 1935 is estimated at a seven per cent. decrease in comparison with 1934, increased valuations are shown for British Columbia, Saskatchewan, and New Brunswick. The other six Provinces have lower valuations than in 1934. In Quebec, the decline of about \$12,000,000 is largely accounted for by the lower value placed on hay and clover. Much the same situation exists in Ontario, but since very little of the hay crop is sold, the effect on the farmer's cash income is slight. In fact, the low values make livestock feeding more profitable.

The decline of about \$19,000,000 in Manitoba is mainly due to the effects of rust on the grain yields, and in Alberta there was a drop of nearly \$12,000,000. An increase of nearly \$17,000,000 in Saskatchewan is due to the improved grain harvests. British Columbia reveals a slight betterment in 1935 over the valuation of 1934.

also known as Brown Top, P.E.I. bent, Rhode Island bent and New Zealand bent is a non-creeping fine grass generally suitable for the production of fine lawns and particularly suited for mixing with Kentucky blue grass. Its inclusion with blue grass increases the speed of obtaining cover and the mixture produces a good dense, hard wearing surface. White Dutch clover should be included in all lawn seedings.

A seeding of two to three pounds per 1,000 square feet of a mixture of four parts Kentucky blue and one part Colonial bent is generally recommended for Eastern Canada. To the grass seed ¼ to ½ ounce of White Dutch clover should be added for every 1,000 square feet of surface to be covered.

DRIED FRUITS

Dried fruits and vegetables which have been preserved by drying where canning was not available should be stored in airtight containers. Tin cans and glass jars are satisfactory, or paper bags dipped in wax and allowed to dry. The bags should be carefully sealed and stored in a cool, dry, well ventilated place.

The Eradication of Bovine Tuberculosis In Dominion

Demand For This Increasing From Year To Year.

By Press and Publicity Division,
Department of Agriculture,
Ottawa, Ontario

The demand for the control of bovine tuberculosis in Canada continues to increase and steady progress has been made, states the annual report of the Veterinary Director General for the year ended March 31, 1935. With approximately 8,485,000 cattle in the Dominion, 2,251,771, or 26.5 per cent., are under test. Many new herds have been accepted and are receiving attention under the accredited and supervised herds plans, while initial general tests have been conducted in established areas in the Provinces of New Brunswick, Quebec, Ontario, and Manitoba. Several general re-tests of areas have also been completed but there is still a number of areas that have been established in which the tests have not yet been undertaken.

An accredited herd is one which has passed two clean tests with an interval of one year, or in the case where re-actors were found in the herd, three clean tests with intervals of six months. Owners of grade cattle which cannot qualify for the accredited herd plan may take advantage of the supervised herd plan to establish herds free from tuberculosis. Care is taken to eliminate infection, and the same methods are followed as in the accredited herd plan, but no compensation is paid for cattle which re-act to the test, although they must be slaughtered under supervision.

In the restricted area plan for the eradication of bovine tuberculosis, all cattle are tested with tuberculin, the re-actors slaughtered under supervision, and compensation paid. All cattle for permanent stay in the area must be accompanied by an official certificate of tuberculin test, with the exception of cattle for immediate slaughter on approved premises and feeder cattle which are tested on arrival at destination.

"Forget self in laboring for mankind; then will you woo the weary wanderer to your door, win the pilgrim and stranger to your church and find access to the heart of humanity."—Mary Baker Eddy.

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WASSONS

SAINT JOHN, N. B.

News Bulletin

DOMINION EXPERIMENTAL STATION
FREDERICTON, N. B.

Plans are now under way at the Dominion Experimental Station, Fredericton, for the storage of ice. Ice is valuable on any farm and particularly so where milk is produced for human consumption. A high class product cannot be supplied unless the milk is cooled as soon as it comes from the cow and is kept in a cold place until it leaves the farm.

At the Fredericton Station two kinds of ice storage are provided.

1. A common ice storage building is used to provide ice for general use, such as refrigerators, ice tanks, etc.

2. A well insulated building is also used with an adjoining compartment used as a cold room. This building is so constructed that the air is circulated over and under the ice and through to the cold room where the temperature is approximately 40 degrees. If this type of building is well insulated, the ice will last until late in the summer and may be replenished from the common storage ice house. Saw-dust is not used to cover this ice in this building, as the air must come in contact with the ice, if the cold room is to be kept at the desired temperature. Ice is usually near at hand in most farm districts and is not being looked upon by many farmers as a cheap and effective way of producing high class milk and cream, not to mention its value in the home.

Plans and specifications of ice houses will be provided by the Dominion Experimental Station upon request.

SAUSAGE PRESERVER

Salt, pepper, and sage or allspice are used for preserving and flavoring sausages made on the farm. Thirty pounds of sausage meat will require ½ pound of table salt, 2 ounces pepper, and 1 to 2 ounces of sage if the sausage is for immediate use, or 1½ to 2 ounces of allspice, instead of sage, for long keeping. These ingredients should be mixed dry and thoroughly incorporated with the sausage meat.

WHEAT ESTIMATE

The preliminary estimate of the total production of wheat in Canada in 1935 at 290,541,000 bushels is 14,692,000, or 5.3 per cent. above the 1934 unrevised estimate, according to the Dominion Bureau of Statistics. The quality of the crop this year is definitely poorer than that of the 1934 crop.

HATCHING EGGS DEMAND

Hatching eggs shipped from Canada to Honolulu have proven so successful that further orders have been received by British Columbia dealers. According to advices, there is every indication that a substantial trade will be developed.