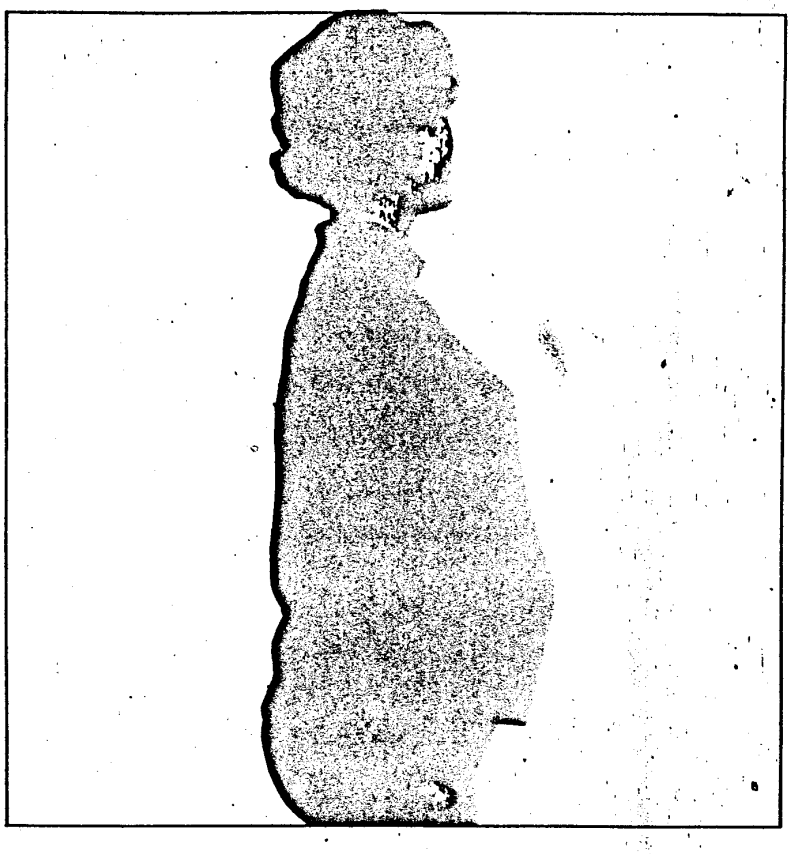
FERTILITY

By John A. Myers, M.D., F.R.S.H.



Our enormous harvest of food grains, vegetables and fruits attests to the high rate of reproduction in nature. Few people realize, however, that much effort and scientific acumen is applied to improve the germination of the seeds to reap this harvest. Various kinds of treatment are applied to the seeds to be sure that they can germinate when planted. An increase in this rate of germination is a great saving to the farmers, the seed producers, and the consumer.

In the case of livestock for food, we find a wide range of success in having the animals become pregnant, and an even wider range in the number of offspring from each pregnancy. Just to improve this process by a small percentage makes a tremendous increase in the farmer's income, as well as in the number of animals sent to market.

The problem of fertility in the human has been a subject discussed as far back as the earliest time of recorded history. In those early days, religious ceremonies developed around the problem of procreation. Prayers, incantations and phallic rites were offered to help women get pregnant. To be barren of child was a disgrace. A woman was not considered a complete person without being able to bear children. Husbands were allowed to abandon a wife who could not bear him a child. We see this situation today in which the deposed late Shah of Iran divorced his then beautiful wife Saroya because she could not bear him children as heirs to his throne. She was more fortunate than most in this case in that he was rich enough to set her up in a beautiful home and in fine style so that she could live comfortably in her exile. In earlier times a woman would not be quite so fortunate. To be barren was to be an outcast.

Not only is the problem of becoming pregnant important, but the production of quality offspring is even more so. In the case of aboriginal tribes a defective child was immediately destroyed — just as the animals destroy their defective offspring. In a story about the Hawaiian people in the book *Hawaii*, by James A. Michener, it is pointed out that defective children were drowned by their elders without the mother even seeing the child. Their King Kamehameha was barely saved from this fate when it was found that he had a defective earlobe. He grew up to be their great king and the idol of their modern civilization.

In the Bible, one of the parables

A Deficiency Of Certain Minerals May Contribute To Infertility, But A Prominent Physician Says The Problem Is Often Correctable.

of Jesus entitled "The Sower" in Matthew 13, verse 3, tells of seeds growing well in good soil, poorly in sand, and not at all among the rocks. Here, He was talking about the quality of the soil in which the seed was planted. In my medical practice I have had a great opportunity to improve the health of the women I have treated, and to improve the soil of life in which the seed of life was growing. I discussed this in a previous paper entitled "Miracles of Life," which appeared in the June 1980 issue of *Let's LIVE*. My earliest interests were to improve the health of the mother and her vitality during pregnancy, and to help her have a more comfortable and satisfactory delivery. In the course of improving these characteristics of procreation I was impressed by the improvement in the quality of the offspring. My program produced super babies and helped them grow into super children.

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Early in my practice, I took over some patients whose physicians had gone into military service. One of them came to me in a great state of apprehension, having been told by her previous physician that if she became pregnant again she would be likely to die in childbirth. She had just become pregnant and was in a great state of fear that this would happen. It seemed that she'd had such a difficult pregnancy with her first one that the doctor predicted disaster for a subsequent one. I quieted her fears and gave her certain vitamins and minerals, as well as endocrine support throughout this pregnancy. On the day she left my office just prior to going to the hospital to have her baby, she felt so well and energetic and so tireless that she said to me that 24 hours a day was not enough time for her to work. She delivered her baby with great ease and without the uterine inertia that had plagued her before. She got herself a beautiful baby boy who developed into a fine young man.

In another case a young woman had lost her first pregnancy after three months and had two subsequent pregnancies — each one causing a greater debilitation until finally she went out of her mind in the middle of the third pregnancy. She ended up in the Medical College of Virginia, where she was given 40 shock treatments and was being prepared for another set of 20 when she was brought to me. She had had no vitamin and mineral or metabolic supplementation in any of her pregnancies. The psychiatrists who saw her decided that her condition was due to her rebellion against the idea of being pregnant — this despite the fact that she had told me she wanted more children.

The shock therapy was designed to remove from her mind all vestiges of memory of her marriage and her marital relationship with her husband. This it succeeded in doing, and to the extent that she even lost her memory of her early schooling. She could not read or write, or recall the use of numbers. She could make no decisions and she was constantly seeing objects fly through the air at her, and she would cringe with fear. The psychiatrists told her mother that she could never have another child — that it would be the end of her.

"She delivered her baby with great ease . . ."

It required about two years of rehabilitative support with vitamins, minerals and hormones to bring this patient back to a normal condition and the return of all of her memory. At this stage I allowed her to become pregnant, despite the fact that her mother remonstrated greatly over this decision. She had two more children, which rounded out her

desire for a family of four. She is now 43 years of age, in excellent health and looks like a fashion model from Hollywood, rather than the disheveled and fearful young woman who came to me some 20 years ago. Her children are all doing well also.

I have had a number of these young women — particularly those with a background of hypothyroidism — who developed postpartum psychosis and were subsequently rehabilitated by this metabolic support after the delivery of their children. Unfortunately, in some of these cases — due to my not having had the opportunity to treat them during their pregnancy — their babies were born with some metabolic defect. This is a condition that is all too common. One of these patients, after having three children, ended up in the Phipps Psychiatric Institute at Johns Hopkins. After six months of psychiatric care, including some 21 shock treatments, she was discharged from the hospital and became my patient. Under metabolic support she is now a 50-year-old woman in an excellent state of health and clever enough to be a three-time life bridge master. Two of her children had congenital defects.

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There is great discussion about dental caries, and an even greater discussion about the protection of the teeth by the use of fluoride. Long before this discussion became today's reality (where fluoride is added to the drinking water of the large cities) I was amazed to find that the children of my patients were protected from dental caries by the nutritional treatment that I gave them. I was often amazed when their mothers told me these youngsters had had decayed teeth at a certain rate per year, and that after receiving my treatment their

dentists were amazed at the improved health of the children's teeth and the complete lack of decay. At no time did I ever use fluoride. It seemed to me that the most important improvement came from the use of thyroid, iodine and mineral elements such as copper, cobalt, molybdenum, manganese, silver, calcium and phosphorus.

It is interesting to note at this time that in the original research on dental caries Dr. Trendly Dean, the father of fluoride, did not find that it was fluoride that reduced caries . . . it was the *total hardness* of the water that was statistically related to the reduction of the dental caries. In an effort to be more scientific in his evaluation, he "inferred" that it was the fluoride in this "mud" content of the water.

In a later experiment where an effort was made to prove it was fluoride that caused the reduction in dental caries, there was a blatant error in calculation that stated that dental caries had been reduced by 66 percent. This was shown by Mr. Konstantin K. Paluev, an electrical engineer of the General Electric Company on March 5, 1957. What the figures showed was that there was a delay in the appearance of decay by the use of the fluoride from one to three years, but after that time the rate of decay was exactly the same as without fluoride. It is the total mineral content of the water that we are recommending now, with no preference for fluoride whatsoever.

". . . iodine, manganese, copper and zinc play important roles in reproduction."

From correspondence with Mr. Rollin J. Anderson, of Sterling Utah, I have received the following information: "Perhaps the most phenomenal thing that I learned about these mineral and trace element compounds in the natural state has been their effect on fertility. This was manifested in the fertility of animals, the fertility of eggs of domestic poultry, and in the germination of seed plantings in the soil. This of course was done back in 1942 and we had no scientific information to go on in regard to the application of these mineral elements. I had to proceed on a trial-and-error basis, along with what was suggested to me by Dr. Head of the U.S. Bureau of Mines.

"My first experience," he related, "was with a young Holstein bull. He had been bought by a number of dairymen to service a group of cows. He failed to produce any calves. They were about to send him to the slaughterhouse when one of the owners of the bull agreed to allow me to feed the bull some mineral elements in his feed. In a short time the bull became the sire of healthy calves and continued to do so for the next five years.

"Another case involved a 14-year-old mare of excellent racing

stock that had failed to produce a colt. The owner, at my suggestion, tried minerals in her diet and she produced several fine colts.

"In order to put the minerals to a real test I took 16 elderly ewes from a sheep herd that were to be discarded because they were too old to breed. I then purchased an old ram which had become infertile. The owner laughed at my purchase. He told me that the hottest of the ewes in the herd would nudge him and he wouldn't even raise his head. When I bought the old ewes the owner stated that I might get six lambs out of the 16, but he would give me a sure bet that I wouldn't get eight. I carried out the experiment by mineralizing the pasture on which they grazed and gave them free choice in the feeders or hoppers of their food. I kept the buck supplied with minerals mixed with a concentrate that we were feeding him for about six weeks. Then I let him run with the ewes. The following spring after turning the buck in with the ewes, they produced 31 lambs from the 16 ewes. It is important to remember that both the ewes and the buck had been discarded because they were infertile — yet with the minerals supplied in their diet they were able to double the usual production of lambs in a normal setting.

"In areas of iodine deficiency, abortion and stillbirths are common . . ."

"A supplier of guinea pigs for hospital and university experimentation could not keep up with the demand because of the low rate of reproduction. He started mixing mineral elements in the cows' milk which was fed to them, but which previously they had refused to drink. The reproduction began to increase rapidly. Before the minerals were supplied to them in their diet, the females were only producing two pigs most of the time, and usually only one at a time. From then on they began producing three — then four — then five — and at one time as many as seven — all very healthy."

When planting seeds for various crops it has been found that germination is roughly about 60 percent where no minerals are added. With the addition of trace minerals to the soil at the time of seeding, the germination is most of the time 100 percent. The plants grow faster — roughly two to three times as fast — and are stronger. In the case of corn and tomatoes, the plants are nearly doubled in size.

In animals, iodine, manganese, copper and zinc play important roles in reproduction. The widespread deficiency of iodine in farm animals gives rise to much infertility. Many times if the young are born at all, they are often dead at birth, or weak and hairless. The parents may be normal, but their progeny have a very low iodine

content in their thyroid glands. Lack of iodine can cause goiter with its "big neck," but the presence of this swollen thyroid is not necessary for impaired reproductive ability.

"In cattle, manganese levels are an index of fertility . . ."

The link between normal thyroid functioning and normal sexual development is very close. Thus, in human beings with low or disturbed iodine metabolism, the unfortunate sufferer is often sterile and has delayed maturation of the genitalia, and invariably fails to develop normal sexual vigor. Experiments show that when thyroidectomy, that is, removal of the thyroid gland, is performed on young birds and mammals, the animal stays in an infantile state for a long time and the gonads and secondary sexual characteristics develop very much later than normally. In contrast, the administration of the iodine-containing hormone thyroxin to bulls, boars and rams which have shown little sexual desire, results in a marked improvement in their sexual drive or libido.

Apart from the iodine influence on the development of puberty, it is also very important in the intrauterine development of the mammalian embryo. In areas of iodine deficiency, abortions and stillbirths are common, and the retention of the placenta is frequent. The gestation period may also be prolonged and the delivery of the babies difficult, as well. In women the greatest iodine requirement appears to be linked to the phase of sexual development. The increased demands for thyroidal function, which are known to be associated with menstruation, pregnancy and lactation, may well explain the high incidence of goiter and thyroid disease in women.

Manganese has a marked influence upon both male and female animals. In cattle, manganese levels are an index of fertility and deficient heifers are slow in developing their oestrus period and in conceiving normally, while the calves they produce tend to be weak.

Copper is another element that plays an important part in reproduction. Copper deficiency results in impaired fertility in cattle. However, here we have an interesting development in which too much molybdenum will cause a relative copper deficiency. In other words, a decrease in fertility may be due to the toxic influence of too much molybdenum, despite the presence of copper. It is now recognized that there is a balance between copper and molybdenum that must be maintained. Unfortunately the actual percentage of these elements and their ratio has not yet been determined.

Zinc is an element that is present in fairly large quantities in mammals — being present in amounts of about one-half the concentration of iron, and considerably more than such elements as copper. It has recently been shown to be responsible for a marked improvement in the sexual development of young men. In reproduction zinc is particularly associated with the testicles and sperm, and in experimental rats a deficiency leads to irreversible atrophy of the testes and hence sterility in the male. The zinc content of viable sperm — especially human sperm — is very high and this element is of importance as a constituent of these cells.

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The general picture that emerges from an investigation of the part played by micro-mineral nutrients in reproduction is that they are important in many phases of this process. Fortunately, while the exact details of the chemical mechanisms involved are by no

means clear, their essential nature is quite obvious. Although their causes are not understood, the conditions of need are recognized and are in some cases successfully treated. Thus the link between trace elements and normal reproduction is a very strong one. From a historical background it must be stressed that trace element deficiencies are widespread and have been known since earliest historic times.

". . . The most important element of fertility in all of nature is the soil . . ."

As was previously stated, infertility, along with the production of strong, healthy offspring, has been the subject of continuous investigation and study throughout recorded history. It becomes clear to us now that the mineral elements in nutrition play a vital and indispensable role. A more detailed story of the interrelationship of mineral elements in the biology of food, plants and farm animals can be found in my book *The Metabolic Aspects Of Health* (Nutritional Elements In Health And Disease).

The preceding part of this article has been designed to aid in the production of strong, healthy children, and to promote the fertility of prospective mothers. It is hoped that they may promptly become pregnant and carry their babies to an easy and healthy delivery.

We cannot leave this subject, however, without pointing out that the most important element of fertility in all of nature is the *soil* in which we grow our food. It comes as a surprise to many of us to realize that in the U.S.A. approximately 30 billion (30,000,000,000) tons of topsoil are washed away every year and end up in the ocean, and in our rivers and bays. This topsoil is the carrier of the micro-life (bacteria, fungi and worms), organic matter, and mineral matter that combine to form the fertility factors in which all of our crops are grown.

In 1906 Dr. W.J. Spillman pointed out the vast difference in the natural fertility of the soils as follows:

"Some soils do not produce well from the start unless special attention is given to making them productive; others produce large crops for a short time and then rapidly diminish in fertility; while others, known as strong soils, remain productive for many years without attention to their fertility. But even the strongest soils will wear out in time unless they are intelligently managed. Curiously enough, as the tide of migration went westward in this country, the settlers found soils of increasing natural fertility, and in each new settlement the opinion prevailed that the soil was inexhaustible. But even the strong soils of the Western prairies have now been cropped with grain and abused by improper methods of tillage until they show signs of approaching exhaustion."

This statement, made 74 years ago, gives credence to the suggestion that our depleted soils are producing deficient food for our consumption. This is frequently denied by government officials in high places. Many patients searching for ways to improve their health, have found this to be true and have sought aid from specially-grown foods enriched with trace elements and organic fertilizers, and available in health food stores around the country.

"'But even the strongest soils will wear out in time . . .'"

It is not within the scope of this paper to discuss further the vast subject of soil fertility. I cannot, however, pass by the opportunity to recommend to those of our readers interested in having more specific information concerning the subject of soil fertility, two magnificent books produced by the United States Department of Agriculture.

The first is entitled *Soils And Men*, The Yearbook of Agriculture for 1938. It is now out of print, but may be obtained from any good library. It was a magnificent effort by Henry A. Wallace, Secretary of Agriculture, to put science to work to preserve our soils and ultimately to make the United States the breadbasket of the world.

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The second book is also produced by the United States Department of Agriculture. It is entitled *Soil* and is the 1957 Yearbook of Agriculture promoted by Ezra Taft Benson, Secretary of Agriculture. This book goes into the science and chemistry of the fertility of the soil and is a magnificent compilation of every facet of the subject. It should be read by every student of soil fertility and farming. It, too, is out of print, but can be obtained from many libraries.

The conclusion of all of these works of scientific excellence is that the fertility of the soil depends upon the mineral elements it obtains from the erosion of the rocks that contain the metals in the form of carbonates, silicates, phosphates, sulfates, etc. Even the micro-life (the bacteria and the fungi that grow in the soil), flourishes only in the presence of the proper balance of these mineral elements. The hue and cry of the early pioneers of soil enrichments was: "Feed the micro-life and it will feed you."

Thus we can see that the thread of life — from the soil, through the vegetable kingdom, and eventually the animal kingdom to man — is dependent upon the mineral elements. From the beginning of time and throughout all the phases of evolution to modern man, mineral elements have played a decisive role. They must be returned to our diet if we are to maintain health at an optimum level. □