



Making May Flowers

► APRIL SHOWERS, the old jingle tells us, bring forth May flowers.

That is true enough; warmth and moisture through a period of three or four weeks are necessary to arouse the dormant plants and stimulate them to shoot up their flower stalks. But no one should mis-read the rime as meaning that May flowers are made in April. May flowers are not made by April showers, but by January snows, and by rains that fell last September and even last June.

Practically all of the flowering herbs that make a springtime woodland stroll such a delight are perennials. That means that the greater part of their growth was accomplished during the preceding season or seasons, and that the flowers you see now were pre-formed months ago and tucked away in snugly closed buds, usually under ground or right at the surface, where dead leaves and a blanket of snow can protect them at least slightly against the winter cold and (even more important) against drying out.

The flowers in these winter buds are

recognizable as flowers, even in their embryonic state. By careful dissection, you can pry one open and recognize sepals, petals, stamens and pistil. Sections examined under the microscope show that they are made up of tissue still in the stage for most active growth, with cells very numerous and very small. This makes possible exceedingly rapid expansion when growing-time comes: the cells continue to divide, but they also swell up to full size and develop the thicker walls that betoken maturity. Johnny-jump-up almost literally jumps up, and so do all his bright little brothers and sisters.

One peculiar thing about most spring flowers is that to bring them forth they need not only the traditional April showers but December frost. There is something in the physiology of dormant buds, in a majority of spring-flowering plants, that makes a really severe chilling necessary before they will start to grow. This requirement for cold to break dormancy does not exist in warm-region plants, though even in the tropics some plants do go through dormant periods. In the cool-temperate and arctic regions, however, it is an excellent arrangement; else all plants might do what some foolish species regularly do—break into bloom during the false spring of a warm autumn, only to have their flowers nipped to naught by a sudden cold night.

Science News Letter, April 6, 1946

CHEMISTRY

RDX In Itself Is Not A Secret Explosive

► RDX, THE SECRET of whose production the Canadian Communist M. P., Fred Rose, and the McGill University faculty member, Dr. Raymond Boyer, are alleged to have delivered into the hands of Soviet agents, is itself not at all a secret explosive.

It was a secret once—a German secret. For it was in Germany that this super-explosive was discovered, during the first World War. It is one of the innumerable things that chemistry has conjured out of the coal-tar pot. Chemically it is cyclotrimethylene-trinitramine. The Germans, however, were unable to find a way to produce it cheaply in quantity, so it did not achieve military importance at the time.

Between wars, Canadian chemists succeeded in developing a method for cheap mass production of RDX, and subsequently American chemists found an even better and cheaper procedure, so it began to figure increasingly in World

War II explosive mixtures. RDX is far more violent than TNT, but is so unstable that it is unsuitable for use by itself. It is therefore ordinarily mixed with TNT to keep it from deteriorating.

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CHEMISTRY

Low-Cost Method Digests Oil Out of Fish Livers

► A SIMPLE, low-cost method for getting vitamin-rich oil out of cod, shark and other fish livers is the subject of patent 2,395,790, obtained by Ivan A. Parfentjev of Nanuet, N. Y. Instead of the elaborate and costly machinery for extracting the oil from the liver tissues by pressure and heating, Mr. Parfentjev literally digests it out. He puts the livers through an ordinary grinding machine, then acidifies lightly, adds a little pepsin, and lets the material stand until this enzyme has broken down the confining cell walls by the same kind of process that occurs in a man's stomach after he has eaten meat. In a few days the yellow oil rises to the surface and can be removed. The inventor points out that this method can be used to extract fish oils in the tropics and in other remote parts of the world, where transportation costs at present prevent the taking and shipping of whole fish livers.

Science News Letter, April 6, 1946

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