

Embryo transfers become available to all farmers

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 surgery either to reach the cow's uterus to flush the fertilized ova or to implant the ovum in the host cow.
 When the transfers were performed surgically it cost about \$2,000 to operate on the donor mother and a similar amount to surgically implant embryos in each host cow. Now that surgery is no longer involved the cost has been reduced to about \$600 for each pregnancy.
 Dr. Bedirian aims to make his method of artificial breeding accessible to all types of farmers and thus use a mobile laboratory to bring his service to the farm.

Two advances in the past couple of years have helped him to achieve his aim. One was a method of removing and implanting the fertilized ovum without surgery. The second was the development of a drug which enables breeders to alter the cow's estrus cycle and thus eliminate the need for many, many host cows.
 The whole transfer process is surprisingly simple. A farmer wanting to use a particular donor cow for breeding will contact the veterinarian and arrange for them to visit his farm at the appropriate date. He will be told to arrange with his veterinarian to give the donor

a fertility drug at an appropriate stage in her estrus cycle so that she will release multiple ova rather than the normal one. She will then be bred.
 The veterinarian will also inject the host cows with the new drug, prostaglandin, which brings them into heat within three days. This must be done at an appropriate time so that the donor and host cows' cycles will match and thus the transferred ovum will be received and retained.
TRAVELLING LABORATORY
 The Bederians travel to the farm in a mobile laboratory so that the transfers can be made right on the farm where it will

cause the least disturbance to the cows involved.
 A rubber tube is inserted in the cow's uterus and it is flushed with about a quart of fluid. The fluid is collected in a flask and left to sit for an hour. In that time the ova will settle to the bottom of the flask so that the excess fluid can be drained off. The remaining fluid is poured into petri dishes and examined one at a time until all the ovum have been found and placed in individual containers. The ovum is then inserted through a pipette into the host cow's uterus.
 Flushing a cow takes about half an hour to three quarters

of an hour as compared with 140 hours for the surgical method. This was followed by about two weeks recovery time.
 The flushing is done about a week after the cow has been bred when each fertilized ovum is the size of a pinhead and is still floating free in the uterus. The ova can be kept from 24 to 36 hours in the proper temperature and special liquid medium.
 By using fertility drugs the donor cow usually releases eight to ten ova. About six of these will be healthy enough to transfer and an average of four pregnancies will result. Dr. Bedirian considers he has

about 60 per cent conception rate from non-surgical transfers and slightly higher using surgery.
 The flushing procedure can be repeated every other month on the donor cow which would result in about 36 calves annually. Or the farmer may decide to flush the cow once or twice, then breed her again and put her back into production if she is a milking cow. Farmers may use this method of quickly building up a herd of very good cattle from one or two exceptional cows, he suggests.
 If they have proven to be exceptionally good milk cows during three or four lactations

the farmer may decide to keep them strictly for breeding and flushings can continue up to the age of 12 or 14.
 Repeated super ovulation and flushing have shown no ill effects on the future reproductive ability of the many animals bred this way over the last few years, Dr. Bedirian says.
FREEZING EMBRYOS
 Dr. Bedirian is experimenting with freezing embryos now so that both fresh and frozen embryos could be exported for breeding purposes. Now the conception rate is cut to about 30 per cent with frozen embryos but he hopes to raise it with further research.

"Just think how much easier it would be to ship embryos overseas to foreign breeders than to send calves or heifers on a plane," he says. "The Canadian farmer would also have the advantage of being able to keep his cow at home and go on exporting embryos from her."
 Dr. Bedirian's wife, Ann, assists him. The couple came to Canada from Lebanon about 11 years ago. They have two daughters.
 Dr. Bedirian formed his own company, Bedirian Embryo Transfers Ltd., at Norval early this year. His customers range from Owen Sound to Niagara and London to Lindsay.

Vacation Guide

HAMILTON, BERMUDA - It's inevitable. Someday, local enthusiasts are going to canonize Hugh Watlington as Bermuda's Father of Sailboarding.
 Already, the 25-year-old Bermudian has collected all the necessary credential befitting such a prestigious appellation. In the summer of 1976 when the first couple of sailboards were brought to the island, Watlington quite unexpectedly ended up with one. Learning to navigate a surf board rigged with a sail takes some doing, but a few months later he had mastered the fine art. Then, in the fall of 1978, he became the first - and still remains the only - Bermudian to have ever competed in international sailboarding competition. He finished 27th among 60 finalists. Overall, there were about 800 sailboarders competing.
 Now, he's a sailboard dealer, plus the island's only certified sailboard instructor and operates Bermuda's only sailboarding school. On top of that he never misses a chance to promote the fast-growing sport, be it by

writing, talking or demonstrating the fun of it all.
 Based at Glencoe hotel at Salt Kettle, one of Hamilton Harbour's scenic recesses, Watlington anticipates this summer will be the start of the sailboarding boom in Bermuda. "The locals are gradually seeing how much fun it is. Last year, I sold 12 boards," Watlington continued. "And with the increased interest among tourists, it's just a matter of time before the whole thing takes off here. Every day now I'm giving more and more lessons and I've had to start scheduling some advanced and trick lessons. Board rentals are up, too."
 While sailboarding is relatively new to Bermuda, it's not to the rest of the world. It was invented in California in 1963 by two surfers looking for an easy way of getting out beyond the breakers. Since that time, more than 100,000 sailboards have been sold. The popularity enjoyed in the United States, however, is far surpassed in Europe, Australia and New Zealand where organized clubs sponsor huge regattas and all

types of championships.
 The reason behind sailboarding not catching Bermuda's recreational fancy until now is a simple lack of exposure. It's a case similar to that of Bermuda and the automobile. The first auto didn't arrive on the island until 1946 but once the locals learned how much fun it was to drive, they beat a steady path to the showroom. Now the entire tiny island has more than 13,000 cars on its 100 miles of paved roadways. The same type of reaction to sailboarding is envisaged.

Watlington has already started to prepare for the anticipated rush, too. With two training boards (simulators) he will soon have four. And his stock of rental boards will soon jump from five to ten.
 Veteran sailboarders know well the fun and satisfaction of mastering the technique. For the inexperienced, though, a brand new recreational joy awaits. The idea is simple: balance ones self on a 12-foot surfboard that has a 13-foot triangular sail, the mast connected to a universal joint mounted in the

middle of the board. Then, using a wishbone-shaped boom, the rider holds on and steers by changing the sail's position. With a husky breeze behind him, a good sailboarder can cruise along at 15 or even 20 miles an hour.

Sailboarding In The Bahamas

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