

Three Facts You Want to Know About Carlson Spray Millet

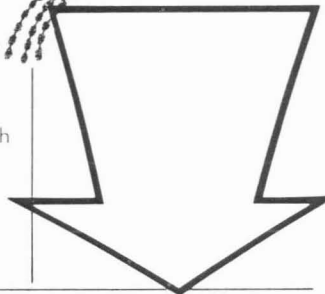
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historical review of Artificial Insemination in Birds

by

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Can a procedure that was hatched by poultry researchers, fledge and be applied to exotic species? There is a good case for this happening with artificial insemination (AI). This article is a review of some of the pioneering work that has made semen collection and insemination possible in many avian species.

In order to perform an artificial insemination, a clean semen sample of sufficient volume must be collected. One of the earliest methods of semen collection was to allow the birds to mate, kill the hen, and surgically remove the recently deposited semen from her oviduct. Of course, this method was a destructive one and did not hold a great deal of promise. The life of the hen was spared by the method developed by Dunn in 1927. He kept his hens and cocks separated and introduced one hen at a time into the breeding pen. As the birds started to mate, a warmed collection dish was inserted between the two birds and the ejaculated semen collected. As can be imagined, this took a great sense of timing and dexterity on the part of the bird



*Semen collection from a sandhill crane.
photo from the collection of Dr. George Gee,
Patuxent Wildlife Research Center,
Laurel, Maryland.*

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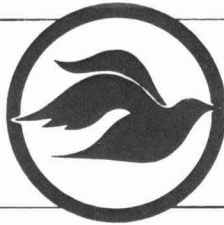
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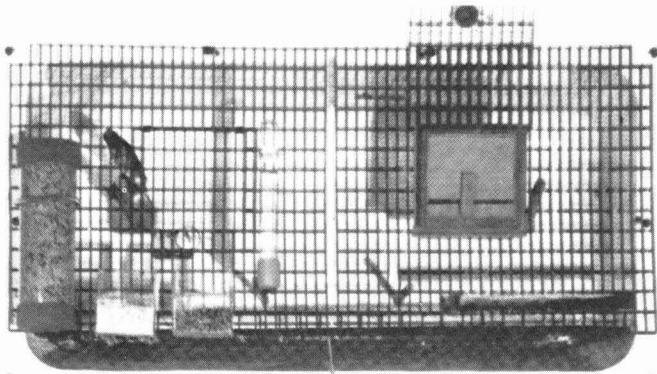
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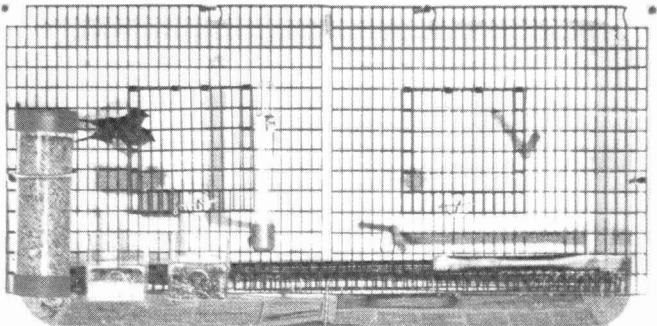
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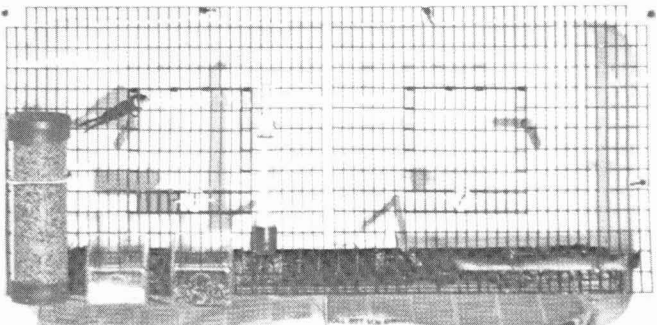


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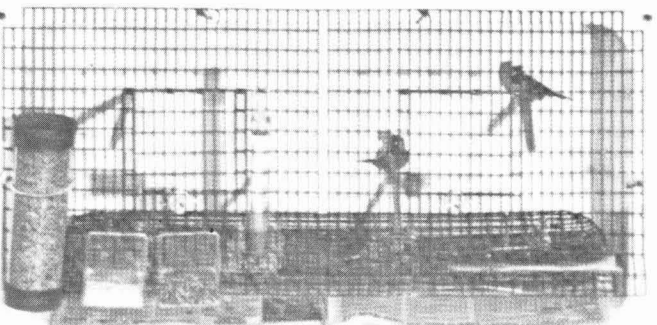
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handler.

Artificial collection of semen was made easier by some devices designed in the 1930's. Ishikawa (1930) covered a square rim of wire with an animal membrane and attached this apparatus to the hen. Using the same idea, Parker (1939) made a collection container out of a glass flask, wire, tape, and rubber bands. However, instead of attaching it to the hen, he anchored it to the cock. Both of these devices worked on the same principle. At the time of mating, the semen was deposited on a collection surface, instead of into the hen.

In 1935, Burrows and Quinn reported on an abdominal massage technique. They found that by massaging the abdomen of the cock, the ejaculatory response could be elicited. The same authors described an improved technique two years later. In addition to massaging the abdominal area, they suggested that the husbandryman could use his thumb and forefinger to apply pressure at the base of the copulatory organ and extract the semen. This procedure is referred to as "milking the male." Burrows and Quinn were definitely the fathers of avian artificial insemination and their basic methods are still employed.

So far this discussion has been limited to the collection of semen. Despite the application of the term artificial *insemination* to the entire process, the collection of semen is probably the more difficult step. Even in a relatively docile domestic rooster, a period (may take only one or two practice sessions) of conditioning is required before the bird will respond to the husbandryman in the appropriate manner. By conditioning, it is meant that the bird is accustomed to being handled and when the abdominal massage is applied that the bird responds by ejaculating. Due to the anatomical proximity of the digestive and reproductive tracts in the birds, there is always the hazard of eliciting a defecation response. There is an increased likelihood of the bird defecating if it is frightened or handled roughly. For the sake of the bird, the handler should be as gentle as possible. Since a clean semen sample is essential, any type of trauma that will result in feces or blood in the sample should be avoided, since both factors cause sperm agglutination.

Once a clean semen sample has been obtained, the actual insemination can be performed. A common method involves a two person team, one member applying the proper pressure so the hen will evert her oviduct and the other member depositing the semen into the oviduct.

The credit for this technique goes again to Quinn and Burrows (1936). If a hen is in egg production, it is relatively easy to induce her to evert her oviduct or "break." A plastic syringe or plastic inseminating straw can be used to insert the semen into the oviduct.

Artificial insemination is used almost exclusively in the turkey industry. As the turkey toms have been bred for larger and larger size, natural mating has become a physical impossibility. Artificial insemination is gaining popularity with producers of broiler breeders. The use of this technique has not been limited to commercial poultry. It has been used for years by the breeders of "fancy" or show chickens. In many of these breeds, elaborate feathering may act as an impediment to natural mating.

In recent years, artificial insemination has been used successfully with rare and endangered species. Sexton and Gee (1978) were able to utilize the technique in the reproduction in the Sandhill Crane, *Grus canadensis pratensis*. Recently, Dr. Greg Harrison of the Research Institute for Avian Medicine, Nutrition, and Reproduction in Lake Worth, Florida, reported success with artificial insemination in cockatiels. He is believed to have produced the first psittacine using artificial insemination.

Artificial insemination would be a great boon to exotic bird breeders. As in other species, the handler must be able to obtain a clean semen sample. Since many exotics are hand raised and have strong attachments to their handlers, this bonding should aid in the ease of semen collection. It cannot be overemphasized that a kind and patient handler plus a good rapport between bird and handler is a strong basis for success. There may be difficulty in getting "collectable" amounts of semen from the small psittacines, however, in the larger breeds there is a good possibility of success.

Once semen can be obtained from these birds, the same benefits will be available to the exotic bird breeder as those that have been seized by both poultry producers and fanciers. Artificial insemination allows for matings between birds that differ greatly in body size. The handler is able to rapidly change sires without the worry of the female rejecting the new male. If a valuable male is injured and rendered incapable of natural mating, his semen can still be used through artificial insemination. The breeder can undoubtedly add other advantages that would prove advantageous in his or her own operation. Certainly, the prospects are promising for breeders wishing to use this technique. ●

SHOWS & NOTICES

Wisconsin Cage Bird Club 6th Annual Show

August 12, 13, 1983

Howard Johnson's Motor Lodge
De Pere, WI
Contact: Mary Zuidema
8608 Bittersweet Rd.
Wausau, WI 54401
(715) 359-4655

Missouri Cage Bird Association

7th Annual Bird Fair

September 18, 1983

Kolping House
4035 Keokuk Avenue
St. Louis, MO
Contact: Eileen Karius (314) 351-2580
1111 Dover Place
St. Louis, MO 63111

Minnesota Cage Bird Association

7th Annual Exotic Cage Bird Show

September 24, 1983

at Bursville Shopping Mall
Contact: Bonnie Knoblach
1071 Mooney Drive
New Brighton, MN 55112

Smokey Mountain Cage Bird Society

Annual Show

October 1, 1983

Senior Opportunity Center
36 Grove Street
Asheville, NC
Contact: Jim Cody (704) 686-5157
337 Wilson Avenue
Swannanoa, NC 28778

Central Ohio Bird Fanciers, Inc.

42nd Annual Show

October 14, 15, 16, 1983

Holiday Inn, Delaware, Ohio
Contact: Pete Vincken
6140 Clover Valley Road
Johnstown, Ohio 43031

Central Ohio Bird Fanciers, Inc.

Annual Show

October 14, 15, 16, 1983

Contact: Pete Vincken
6140 Clover Valley Road
Johnstown, OH 43031

Greater Kansas City

Avicultural Society

All Bird Show

October 15, 1983

Heritage Inn, 15201 S. 71 Hwy.
Grandview, MO 64030
Contact: Norman R. Caywood
Rt. 1, Box 120A Pleasant Hill, MO 64080

Maryland Cage-Bird Society

Fall Bird Show

October 14, 15, 16, 1983

at Catonsville Quality Inns
Rt. 40, Baltimore Natl. Pike
Exit 15A off Balt. Beltway (I-695)
Contact: Jane E. Colson (301) 525-2827
5341A Carriage Court
Baltimore, MD 21229

Gulf South Bird Club

5th Annual All Bird Show

October 15, 16, 1983

New Orleans Airport Hilton
901 Airline Hwy.
Contact: Julia K. Nagel
603 Deslonde Street New Orleans, LA 70117

Sunshine State Cage Bird Society

Annual Show

October 15, 1983

Howard Johnson Motor Lodge
8020 International Drive
Orlando, Florida
Contact: Gerri Daub, (305) 323-8076

Capitol City Bird Club

7th Annual Bird Exhibition

October 22, 23, 24, 1983

Rusch Park Community Center
Citrus Heights, CA
Contact: Theresa Rooney
4248 Niblick Way
Fair Oaks, CA 95628

Baltimore Bird Fanciers, Inc.

44th Annual Open Bird Show

October 22, 1983

Esses Elks Hall, Essex, MD
Contact: Alvina Frey (301) 252-2376
12120 Boxwer Hill Road
Cockeysville, MD 21030

Suncoast Avian Society

8th Annual Bird Show

October 22 & 23, 1983

at Princess Martha Hotel
St. Petersburg, FL
Regular show on Sat., 22nd
Pet Bird show on Sun., 23rd
Contact: Phyllis Martin (813) 839-4751
4483 Gandy Blvd. Tampa, FL 33611

Fresno Canary and Finch Club

20th Annual Young Bird Show

October 28, 29, 30, 1983

at Hacienda Inn,
Clinton Ave. & Hwy. 99
Fresno, CA
Contact: Mary Van (209) 686-5921
601 West Cross Avenue
Tulare, CA 93274

Gold Coast Exotic Bird Club, Inc.

8th Annual Open Bird Show

October 29, 1983

Holiday Inn Oceanside
Ft. Lauderdale, FL
Contact: P.O. Box 15056
Plantation, FL 33318
or Mrs. Mike Simmons
(305) 772-2632

Greater Pittsburgh Cage Bird Society

Annual Show

October 29, 1983

Ramada Inn North
Gibsonia, PA
Contact: Ginny Yeager
2937 Kilcairn Lane
Allison Park, PA 15101

Missouri Cage Bird Association

Annual Open Show

November 4, 5, 1983

Harley House Hotel of St. Louis
13440 Riverglen Drive,
Earth City, MO
Contact: Sandy Simpson
1308 Primrose Drive
Arnold, MO 63010

Greater Chicago Cage Bird Club, Inc.

Annual All-Bird Show

November 4, 5, 6, 1983

Holiday Inn, Itasca, IL
Contact: LaVerne Krauss
2719 S. Komensky Avenue
Chicago, IL 60623 (312) 521-1961

San Diego Bird Show

November 4, 5, 6, 1983

College Grove Shopping Center

Hwy. 94 7 College Grove Ave.
San Diego, CA
Contact: Mary Lannom (619) 749-3115
Rt. 6, Box 2108 Escondido, CA 92025

American Canary Fanciers Association

3rd Annual Show

November 5, 6, 7, 1983

Hacienda Hotel
525 North Sepulveda
El Segundo, CA
Contact: Kelvin Clegg (213) 476-0745

Cleveland Canary & Cage Bird Club

Bird Show

November 12, 1983

Puritas Lutheran Church
13812 Bellaire
Cleveland, Ohio 44135
Contact: Ray Ptak
7102 Wilber Ave., Parma, OH 44129

Orange County Bird Breeders

Bird Fair

November 13, 1983

Orange County Fairgrounds, bldg. 10
Costa Mesa, CA
from 9:30 a.m. to 4 p.m.
Contact: Vern Nievar (714) 554-2215
or Candy Fletcher (714) 537-0408

American Cockatiel Society

6th National Cage Bird Show

November 17, 18, 19, 1983

to be held in conjunction with the
35th National Cage Bird Show
Regency Hotel, Denver, CO
Contact: Carter Atwood
Rt. 1, Box 120A
Pleasant Hill, MO 64080

Great Western Budgerigar Society

29th Annual Exhibition

November 18, 19, 20, 1983

Rosemead Community
Recreation Center
3936 Muscatel Ave., Rosemead, CA
Contact: Sally Lawrence (213) 934-1383
141 S. Arden Blvd.
Los Angeles, CA 90004

35th National Cage Bird Show

November 18, 19, 20, 1983

Regency Hotel Denver, CO
Contact: Kevin Wirick (303) 623-5959
748 Santa Fe Drive
Denver, CO 80204

Maryland Cage-Bird Society

Roller Show

December 2, 3, 1983

Howard Johnson Motor Lodge
5701 Baltimore National Pike
Baltimore, MD 21229
Contact: John Klausmeyer
2956 Normandy Drive
Ellicott City, MD 21043