

PCDART Timed AI Program

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The PCDART Timed AI Program is designed to provide a procedure for using prostaglandin (PGH) and gonadotropin releasing hormone (GnRH) injections to eliminate the need for heat detection in dairy operations. The procedure is designed for once a week injections and AI breedings.

The Timed AI Program contains two different injection programs. Both programs give the user the option of using at least one setup PGH injection prior to starting the program. The first program, called Ov-Sync, uses PGH and GnRH injections. The Ov-Sync program begins with a GnRH injection during the first week after the voluntary waiting period (VWP). This is followed by a PGH injection 7 days later; a second GnRH injection 2 days later; and, AI breeding 1 day later. The program is outlined in the following diagram.

End of VWP	7 Days Later	2 Days Later	1 Day Later
GnRH	PGH	GnRh	AI

The Ov-Synch program also includes the option of giving 1, 2 or 3 PGH injections prior to giving the first GnRH injection. If one setup PGH injection is chosen, it will be given **12 days** prior to the first GnRH injection. If two setup PGH injections are chosen, the first will be given **26 days** prior to the first GnRH injection and the second will be given **14 days** after the first setup PGH. If three setup PGH injections are chosen, the first will be given **40 days** prior to the first GnRH injection, the second setup PGH is given **14 days** after the first setup PGH and the third setup PGH is given **14 days** after the second PGH injection. In other words, if three setup PGH injections is the chosen option, the first will be given **40 days** prior to the first GnRH injection, the second will be given **26 days** prior to the first GnRH and the third **12 days** prior to the first GnRH.

The second program, called Targeted PGH Breeding, uses PGH injections only. The Targeted PGH program may also begin with an optional setup PGH injection. However, the Targeted PGH program only allows one optional setup PGH injection.

The first PGH injection of the Targeted PGH program is given 1 week past the end of the VWP. The second PGH injection is given 14 days later and the third PGH injection 14 days later. AI breeding is done 72-96 hours after the last PGH injection.

7 days after			
end of VWP	14 Days Later	14 Days Later	80 Hrs Later
PGH	PGH	PGH	AI

The optional setup PGH injection is given 14 days prior to the first PGH of the Targeted PGH series which is also 1 week before the end of the VWP.

The Timed AI Program consists of three steps. The first step is to setup the program in PCDART using Application A-O-16. Go into the Auxiliary menu from the PCDART Main Menu Screen and select option O to set the program up. Select 16 – Timed AI Program – from the options menu. This will bring up a setup screen which gives the user a flexible series of options to design the program. The options are shown in the following A-O-16 setup screen. Application A-O-16 only needs to be run once at the beginning of the timed AI program

23360268 Timed AI program

Program O O = Ov-Sync; P = PGH-Targeted Breeding
Setup PGH 2 num of setup injections to be given
enter N or 0, or Y or 1, 2 or 3
Day of week MON SUN MON TUE WED THU FRI SAT
for GnRH-1
Time of day A A = AM; P = PM
Wait Period 60 num days to wait after calving (if not VWP)

Ov-Sync Schedule

Setup-PGH 40 days before end of WP
Setup-PGH 26 days before end of WP
Setup-PGH 12 days before end of WP
GnRH-1 at end of WP
(12 days after last setup)
PGH in 7 days
GnRH-2 in 2 days
AI in 1 day

PGH-Targeted Breeding Schedule

Setup-PGH 7 days before end of WP
PGH-1 at end of WP if no setup
or 14 days after setup
PGH-2 in 14 days
PGH-3 in 14 days
AI in 3 days

The second step is to enroll or start cows on the Timed AI Program. A list of cows meeting the criteria to start the program during the current week can be shown by running the TIMED AI REPORT (124) in application P and using the /U - Unenrolled, eligible - subcommand. This will show only cows eligible to start the program during the current week. Cows that are eligible to start the timed AI program during the current week are:

- A. If using 1 setup PGH injection, all cows that have not been bred and are within -11 days of the VWP for the Ov-Sync program and -6 days of the VWP for the Targeted PGH program; and all cows past the VWP that are diagnosed either open or in heat. If using 2 setup PGH injections, add all cows that have not been bred and are within -25

days of the VWP for the Ov-Synch program. If using 3 setup PGH injections with the Ov-Synch, add all cows not bred and within -39 days of the VWP.

- B. If not using a setup PGH, all cows past the VWP that are diagnosed either open or in heat or have no reported breedings.

The following shows the initial screen for the TIMED AI REPORT (124) with the /U subcommand.

```
HERDCODE Ref:05-12-00 Sub /U                                051200 13:18 Pg 1
124 Ov-Synch with 1 setup PGH for week of 05-15-2000 - 05-21-2000
G      Days
r      in Reproductive      Monday   Wednesday Thursday
p Index Milk date code      05-15-2000 05-17-2000 05-18-200
```

If you want to assign new-group, enter ## else press ENTER

The user has the option here of assigning all the unenrolled, eligible cows to a new-group number. This will allow the user to enroll these cows using the new-group enrollment feature. The procedure prompts the user to accept or reject enrolling each cow in the chosen group without having to key her index number.

Once the cows eligible to start the timed AI program are identified, they are enrolled on the program using the P8 Timed AI procedure in application I. The menu screen for the P8 procedure looks as follows:

```
HERDCODE                                Last Date of Test
P8 TIMED-AI PROGRAM
```

```
To Start cow on TAI,           enter S
To eXclude cow from TAI,       enter X
To Remove exclusion from TAI,  enter R
```

The P8 procedure has three subcommands. /S allows the user to enroll individual cows on the program.

```
HERDCODE                                Last Date of Test
P8/S START COW ON TIMED-AI PROGRAM
```

```
Index      Injection day is Monday
_____    If no more entries: enter next proc, or ESC to menu
           "GP##" for grp ##; "NG##" for new-grp## ;"BT##" for btch ##
```

The P8 procedure also allows the user to enter groups of cows by entering the group, new-group or batch number. /X allows the user to exclude a cow from the program. /X makes cows ineligible for the program. Cows already on the program will no longer show up on report 124. Cows that are eligible but not yet enrolled will no longer show up on report 124/U. /R allows the user to remove the exclusion from a cow. The screens for /X and /R are similar to the /S screen.

Printing Lists of Cows for Timed AI Injections

The third step is running the TIMED AI REPORT (124) to show a list of cows which should receive timed AI events during the following week. In other words, a list of which cows should receive which injections during the following week.

Running the TIMED AI REPORT (124) with no subcommands is the default for listing cows enrolled on the timed AI program. Report 124 with no subcommands is shown below.

```

HERDCODE Ref:04-23-00                                042300 13:36 Pg
124 Ov-Sync with 3 setup PGH for week of 04-24-2000 - 04-30-2000
G
r      Calving      Monday      Wednesday      Thursday
r Index  date      04-24-2000  04-26-2000  04-27-2000
1   94 10-25-1999      PGH          GnRH-2      AI
1   99 12-07-1999      PGH          GnRH-2      AI
2  102 08-24-1999      PGH          GnRH-2      AI
    151 02-05-2000      PGH          GnRH-2      AI
    157 01-25-2000      GnRH-1
    175 01-27-2000      GnRH-1
1  245 10-26-1999      GnRH-1
2  431 10-05-1999              Setup PGH-3
    437 01-21-2000              Setup PGH-3
    445 01-24-2000              Setup PGH-3
2  465 08-16-1999              Setup PGH-3
1  472 12-20-1999              Setup PGH-3
    12 cows
  
```

The Ov-Sync option of the TIMED AI REPORT (124) includes lists of cows to:

1. Receive a setup PGH injection or a PGH injection on the day of the week chosen in A-O-16 in step one.
2. Receive a setup PGH injection two day after the day of the week chosen in A-O-16.
3. Receive a GnRH injection on the day of the week chosen in A-O-16 in step one.

4. Receive a GnRH injection 2 days after the day of the week chosen in A-O-16 and an AI breeding 1 day later.

The Targeted PGH Breeding option of the TIMED AI REPORT includes lists of cows to:

1. Receive a PGH injection on the day of the week chosen in A-O-16 in step one.
2. Breed 72-96 hours after the day of the week chosen in A-O-16.

Individual cows are dropped off the TIMED AI REPORT (124) after they are bred and remain off until they are diagnosed open.

CAUTION: Reporting breedings and heats in PCDART for cows enrolled on the timed AI program will change the status of these cows in the program. When a breeding is entered for a cow on the timed AI program, the cow will be unenrolled but will not show up on the unenrolled, eligible list in report (124) until she is diagnosed open. When a heat is reported for a cow on the timed AI program, the cow will be unenrolled and will show up as unenrolled and eligible in report 124. In other words, the cow will be started over on the timed AI program.

Once a cow completes the timed AI program she will become eligible to re-enter the program if she is reported open in P6 or in heat in P5 in application I.

The TIMED AI REPORT (124) can be run any day of the week and it will produce a list of cows to receive timed AI events during the following week on the day chosen in the A-O-16 setup procedure. For example, suppose Monday is the day of the week chosen to give weekly injections. If the report is run on Friday, it will produce a list of cows to receive timed AI events on the following Monday and during the subsequent week. The TIMED AI REPORT (124) with no subcommands will list currently enrolled cows to receive timed AI events during the subsequent week.

The TIMED AI REPORT (124) with the /U subcommand will list cows which are not currently enrolled but which PCDART recognizes as eligible at the time the report is run. However, keep in mind that PCDART must recognize that these cows are eligible. For example, suppose Report 124/U is printed on Friday morning. Repro checks are done on Friday afternoon and the data is entered in PCDART. Now, suppose there are several cows which were diagnosed open during the Friday afternoon repro check and are now eligible to show up on the TIMED AI list for the following Monday. Since, the TIMED AI REPORT (124/U) was printed *before* the new repro check data was entered, the open cows will not show up on the report because they were not eligible at the time Report 124/U was printed.

The TIMED AI REPORT (124) also has an /F – Format 2 subcommand which lists all cows currently on the timed AI program along with all the event dates associated with each cow. The Format 2 report looks as follows:

HERDCODE Reference Date Sub /F
Ov-Sync with setup PGH

G	r	p	Index	Calving Date	Setup PGH	GnRH(1)	PGH	GnRH(2)	AI(6-18h)
2	2984			04-13-99	06-21-99	07-05-99	07-12-99	07-14-99	07-15-99
9	6066			04-13-99	06-21-99	07-05-99	07-12-99	07-14-99	07-15-99
10	3011			02-14-99	06-07-99	06-21-99	06-28-99	06-30-99	07-01-99
1	3015			03-05-98	06-07-99	06-21-99	06-28-99	06-30-99	07-01-99
9	3032			01-20-99	06-07-99	06-21-99	06-28-99	06-30-99	07-01-99

The VWP can be changed at any time using Application T-H-O. Changing the VWP will affect when new cows become eligible for the program, but will not affect the timed AI events for cows already on the program.

The timed AI procedure can also be used when injecting different sets of cows on different days of the week. For example, a user may want to give injections on Mondays and Thursdays. The user can start one set of cows on Monday and one set on Thursday by changing the day of the week on the A-O-16 setup screen. However, remember that to get a list of cows to give injections on Mondays, the day of the week must be reset to Monday on the A-O-16 setup screen. The day of the week must then be changed to Thursday to run the list of cows to give injections on Thursday. The /F subcommand in report 124 will show ALL cows enrolled on ALL timed AI procedures even if the user is running reports for timed AI programs on two or more days.

The following are examples of Report 124 run on a weekly basis. These screens show which cows get which injections on a particular day of the week.

WEEK1

HERDCODE Ref:03-03-00 **030300 10:33 Pg**
124 Ov-Sync with 3 setup PGH for week of 03-06-2000 - 03-12-2000

G	r	Index	Calving date	Monday	Wednesday	Thursday
				03-06-2000	03-08-2000	03-09-2000
1	26		10-19-1999	GnRH-1		
1	30		11-20-1999	GnRH-1		
1	94		10-25-1999		Setup PGH-1	
1	99		12-07-1999		Setup PGH-1	
2	102		08-24-1999		Setup PGH-1	
			151 02-05-2000		Setup PGH-1	
6 cows						

WEEK 2**HERDCODE Ref:03-10-00****031000 10:40 Pg****24 Ov-Sync with 3 setup PGH for week of 03-13-2000 - 03-19-2000**

G	Calving	Monday	Wednesday	Thursday
r	Index date	03-13-2000	03-15-2000	03-16-2000
1	26 10-19-1999	PGH	GnRH-2	AI
1	30 11-20-1999	PGH	GnRH-2	AI
	157 01-25-2000		Setup PGH-1	
	175 01-27-2000		Setup PGH-1	
1	245 10-26-1999		Setup PGH-1	

5 cows

WEEK 3**HERDCODE Ref:03-17-00****031700 13:28 Pg****124 Ov-Sync with 3 setup PGH for week of 03-20-2000 - 03-26-2000**

G	Calving	Monday	Wednesday	Thursday
r	Index date	03-20-2000	03-22-2000	03-23-2000
1	94 10-25-1999		Setup PGH-2	
1	99 12-07-1999		Setup PGH-2	
2	102 08-24-1999		Setup PGH-2	
	151 02-05-2000		Setup PGH-2	
	247 02-04-2000		Setup PGH-1	
1	269 11-13-1999		Setup PGH-1	
2	418 10-06-1999		Setup PGH-1	

7 cows

WEEK 4**HERDCODE Ref:03-24-00****032400 13:29 Pg****124 Ov-Sync with 3 setup PGH for week of 03-27-2000 - 04-02-2000**

G	Calving	Monday	Wednesday	Thursday
r	Index date	03-27-2000	03-29-2000	03-30-2000
1	157 01-25-2000		Setup PGH-2	
1	175 01-27-2000		Setup PGH-2	
1	245 10-26-1999		Setup PGH-2	
2	431 10-05-1999		Setup PGH-1	
	437 01-21-2000		Setup PGH-1	
	445 01-24-2000		Setup PGH-1	

6 cows

WEEK 5**HERDCODE Ref:03-28-00****032800 13:31 Pg****124 Ov-Sync with 3 setup PGH for week of 04-03-2000 - 04-09-2000**

G	Calving	(Wednesday)	Monday	Wednesday	Thursday
r	Index	date	(03-29-2000)	04-03-2000	04-05-2000 04-06-2000
1	94	10-25-1999			Setup PGH-3
1	99	12-07-1999			Setup PGH-3
2	102	08-24-1999			Setup PGH-3
1	151	02-05-2000			Setup PGH-3
1	247	02-04-2000			Setup PGH-2
1	269	11-13-1999			Setup PGH-2
2	418	10-06-1999			Setup PGH-2
2	431	10-05-1999	(Setup PGH-1)		
1	437	01-21-2000	(Setup PGH-1)		
2	445	01-24-2000	(Setup PGH-1)		
2	465	08-16-1999	(Setup PGH-1)		
1	472	12-20-1999	(Setup PGH-1)		

12 cows

WEEK 6**HERDCODE Ref:04-05-00****040500 13:33 Pg****124 Ov-Sync with 3 setup PGH for week of 04-10-2000 - 04-16-2000**

G	Calving	(Wednesday)	Monday	Wednesday	Thursday
r	Index	date	(04-05-2000)	04-10-2000	04-12-2000 04-13-2000
1	157	01-25-2000			Setup PGH-3
1	175	01-27-2000			Setup PGH-3
1	245	10-26-1999			Setup PGH-3
2	431	10-05-1999			Setup PGH-2
2	437	01-21-2000			Setup PGH-2
2	445	01-24-2000			Setup PGH-2
2	465	08-16-1999			Setup PGH-2
1	472	12-20-1999			Setup PGH-2
1	478	12-25-1999	(Setup PGH-1)		
2	479	01-21-1999	(Setup PGH-1)		

10 cows

WEEK 7**HERDCODE Ref:04-14-00****041400 13:35 Pg****124 Ov-Sync with 3 setup PGH for week of 04-17-2000 - 04-23-2000**

G	Calving		Monday	Wednesday	Thursday
r	Index	date	04-17-2000	04-19-2000	04-20-2000
1	94	10-25-1999	GnRH-1		
1	99	12-07-1999	GnRH-1		
2	102	08-24-1999	GnRH-1		
1	151	02-05-2000	GnRH-1		
2	247	02-04-2000		Setup PGH-3	
1	269	11-13-1999		Setup PGH-3	
2	418	10-06-1999		Setup PGH-3	
1	478	12-25-1999		Setup PGH-2	
2	479	01-21-1999		Setup PGH-2	

9 cows

WEEK 8**HERDCODE Ref:04-23-00****042300 13:36 Pg****124 Ov-Sync with 3 setup PGH for week of 04-24-2000 - 04-30-2000**

G	Calving		Monday	Wednesday	Thursday
r	Index	date	04-24-2000	04-26-2000	04-27-2000
1	94	10-25-1999	PGH	GnRH-2	AI
1	99	12-07-1999	PGH	GnRH-2	AI
2	102	08-24-1999	PGH	GnRH-2	AI
2	151	02-05-2000	PGH	GnRH-2	AI
2	157	01-25-2000	GnRH-1		
1	175	01-27-2000	GnRH-1		
1	245	10-26-1999	GnRH-1		
2	431	10-05-1999		Setup PGH-3	
1	437	01-21-2000		Setup PGH-3	
1	445	01-24-2000		Setup PGH-3	
2	465	08-16-1999		Setup PGH-3	
1	472	12-20-1999		Setup PGH-3	

12 cows

WEEK 9**HERDCODE Ref:05-01-00****050100 13:38 Pg****124 Ov-Sync with 3 setup PGH for week of 05-01-2000 - 05-07-2000**

G	Calving	Monday	Wednesday	Thursday
r	Index date	05-01-2000	05-03-2000	05-04-2000
2	157 01-25-2000	PGH	GnRH-2	AI
1	175 01-27-2000	PGH	GnRH-2	AI
1	245 10-26-1999	PGH	GnRH-2	AI
1	247 02-04-2000	GnRH-1		
1	269 11-13-1999	GnRH-1		
2	418 10-06-1999	GnRH-1		
1	478 12-25-1999		Setup PGH-3	
2	479 01-21-1999		Setup PGH-3	

8 cows

WEEK 10**HERDCODE Ref:05-09-00****050900 13:39 Pg****124 Ov-Sync with 3 setup PGH for week of 05-15-2000 - 05-21-2000**

G	Calving	(Wednesday)	Monday	Wednesday	Thursday
r	Index date	(05-10-2000)	05-15-2000	05-17-2000	05-18-2000
2	431 10-05-1999		PGH	GnRH-2	AI
1	437 01-21-2000		PGH	GnRH-2	AI
2	445 01-24-2000		PGH	GnRH-2	AI
2	465 08-16-1999		PGH	GnRH-2	AI
1	472 12-20-1999		PGH	GnRH-2	AI
1	478 12-25-1999		GnRH-1		
2	479 01-21-1999		GnRH-1		

7 cows

WEEK 11**HERDCODE Ref:05-16-00****051600 13:42 Pg****124 Ov-Sync with 3 setup PGH for week of 05-22-2000 - 05-28-2000**

G	Calving	(Wednesday)	Monday	Wednesday	Thursday
r	Index date	(05-17-2000)	05-22-2000	05-24-2000	05-25-2000
1	478 12-25-1999		PGH	GnRH-2	AI
2	479 01-21-1999		PGH	GnRH-2	AI
	482 01-09-2000 (Setup PGH-1)				
1	488 01-03-2000 (Setup PGH-1)				

4 cows