



**Singapore Healthcare Management 2017**



**National Large Animal Research Facility**

# National Large Animal Research Facility Pig Ordering Workflow

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## Introduction

The National Large Animal Research Facility (NLARF) is a satellite facility of SingHealth Experimental Medicine Centre (SEMC) which has been designated as a national resource to meet large animal research needs of the local biomedical community. NLARF is a partnership between Singapore Health Services (SingHealth) / Duke NUS Medical school (SingHealth Duke-NUS) and National University Health System (NUHS) Academic Medical Centers.

Animals play a vital role in the translation of biomedical research to healthcare. Large animal models closely mimic human anatomy and physiology, hence, are indispensable in translational research. Among its unique services to the scientific community, NLARF coordinates the supply of in-house bred and imported high health status, or research-quality pigs (NLARF Pigs) to local institutions and research facilities.

NLARF pigs are used not only for research, but also for clinical skills training / workshops. Thus, it is important to establish a mechanism to manage the supply and demand of the pigs to allow uninterrupted implementation of project and at the same time minimize wastage.

## Objectives

- To supply high health status pigs to local institutions and research facilities.
- To ensure continuous supply of high health status NLARF pigs for use in research projects and training courses.
- To manage inventory of pigs and monitor growth of pigs born in NLARF.
- To minimize wastage by timely allocation of NLARF pigs at their suitable age / weight.

## Method

### NLARF POLICY ON PIG PURCHASE

#### Terms and Conditions of use of NLARF Pigs

- NLARF pigs are bred only for scientific use (i.e. research projects and training courses).
- NLARF prohibits breeding, mating and/ or resale of the pigs by other Institutions.
- Male pigs supplied for scientific use are castrated.
- NLARF does not accept return of NLARF pigs which have been brought out of NLARF to avoid cross-contamination.
- All NLARF pig purchases should be made to NLARF through Animal Order Administrators of Ordering Institutions.
- NLARF pigs are allocated based on availability and on a first-come, first-serve basis.

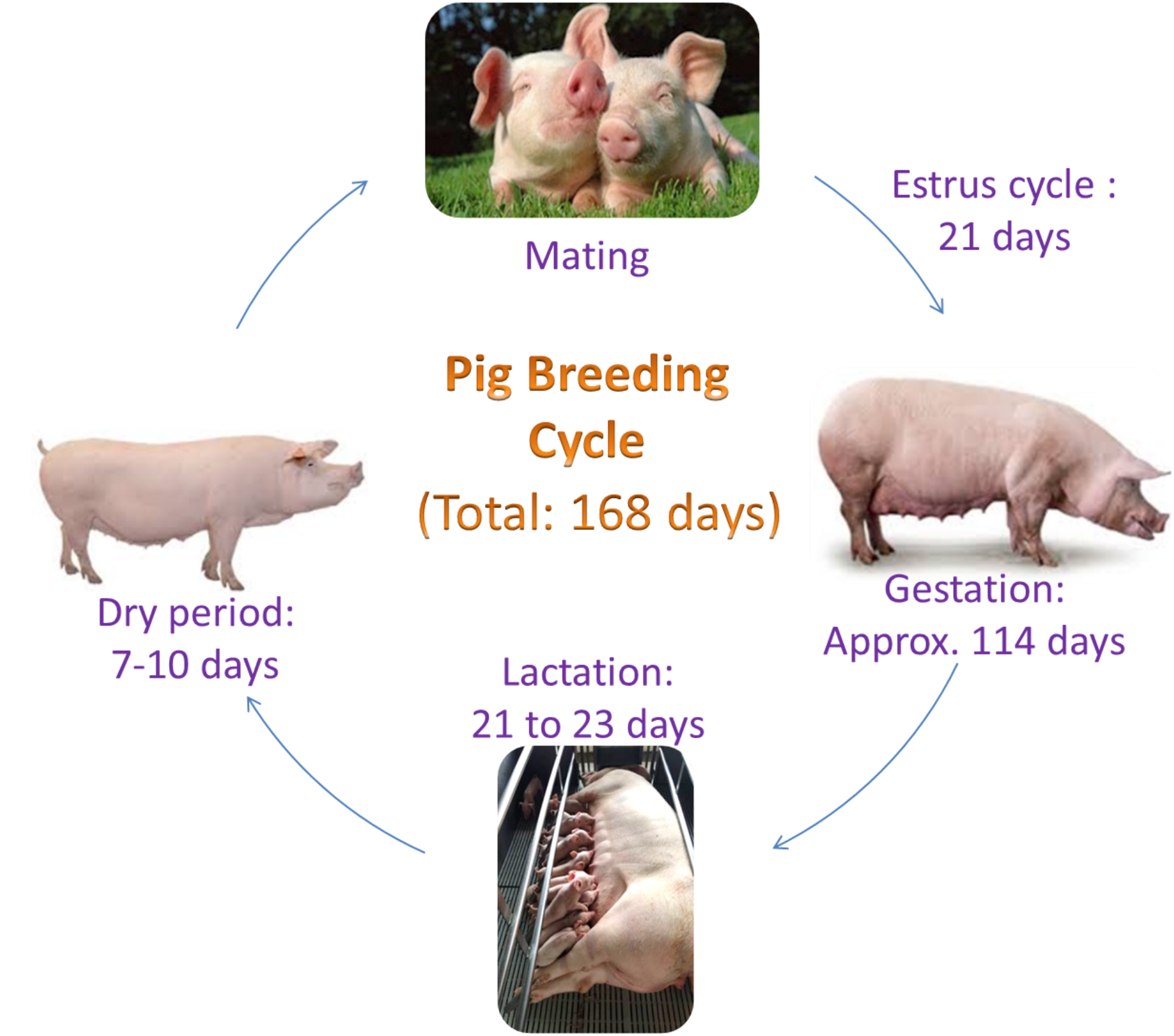


Diagram 1: NLARF pig breeding cycle is approximately 168 days

## NLARF ANIMAL ORDERING PROCESS FLOW

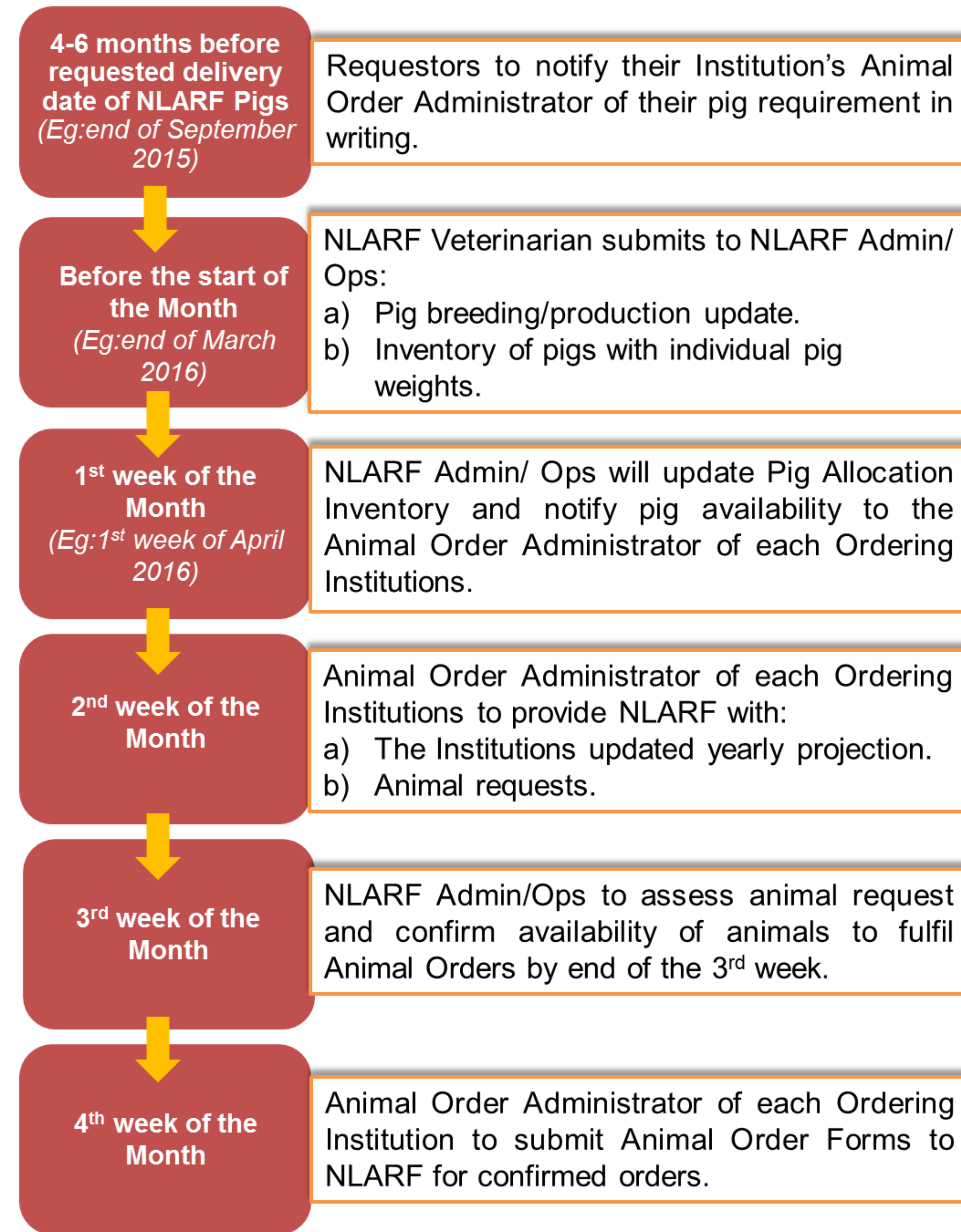


Diagram 2: Pig breeding projection

Diagram 3: NLARF Animal Order Form

#### Definitions:-

- a) Ordering Institution: SingHealth, NUHS and External Institutions
- b) Requestor : Investigators, researchers, and personnel who submits orders from Ordering Institution
- c) Animal Order Administrators: Personnel designated by Ordering Institution to place orders with NLARF

## Results

- NLARF is able to supply approximately 300 pigs per year in the past 2 years.
- NLARF only disposed 6 pigs in year 2015 and 8 pigs in year 2016.

## Conclusion

The NLARF Pig Ordering Workflow has helped to ensure optimized breeding and allocation plans for the pigs bred in NLARF. In addition, the workflow has reduced the number of unutilized pigs. This is important in NLARF's fulfilment of its role as the national resource of large animals in Singapore.