2. B. PARENT SEED – FIELD CROP

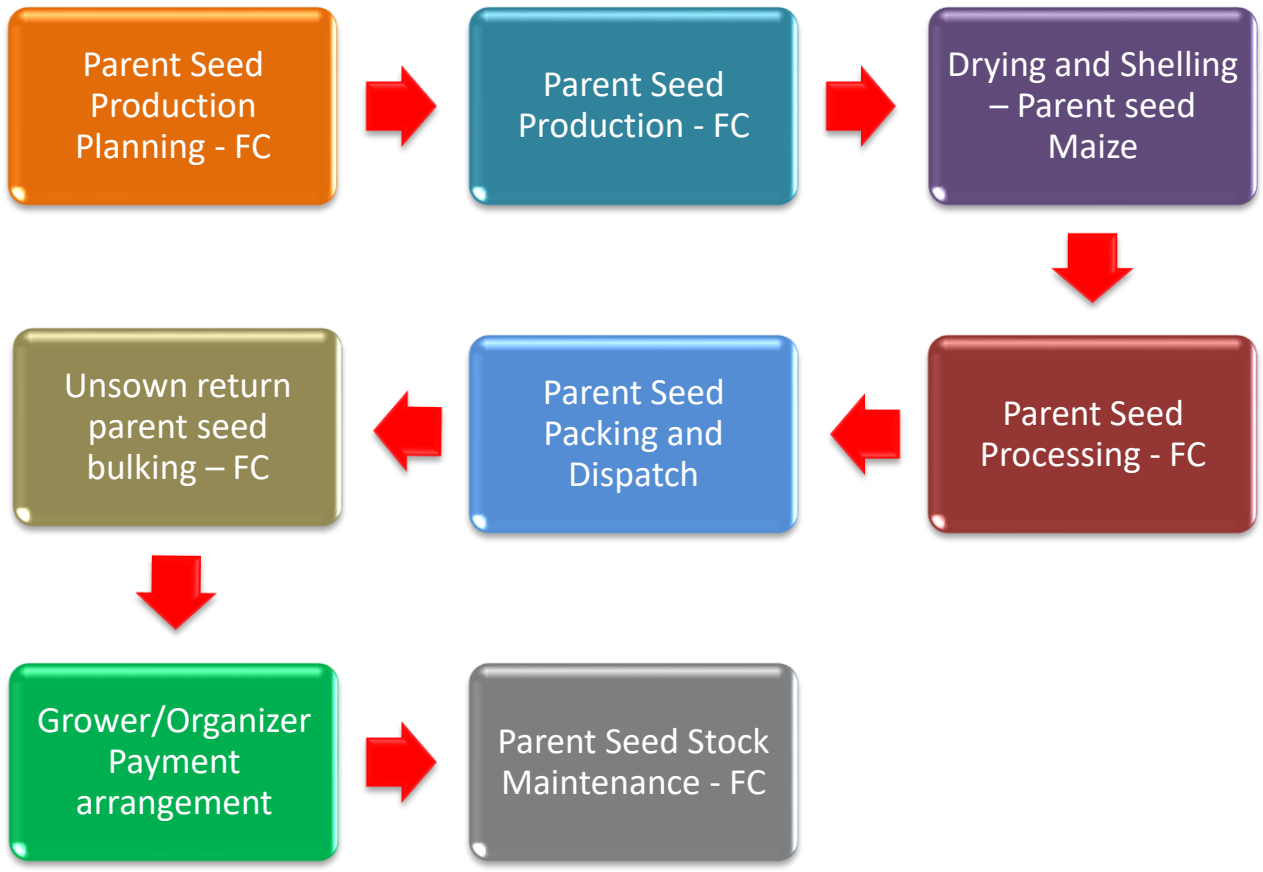
2.B PARENT SEED – FIELD CROP

PROCESS SUMMARY

Objective:

- Production of quality parent seeds based on the production requirement
- Timely supply of required quantity with quality parents seed for hybrid seed production

Process Overview:



Process beginning:

- Receipt of rolling sales plan from marketing

Process ending:

- Supply of parent seed to production department for Hybrid seeds production

Key Inputs

Particulars	From	Document Reference
Rolling Sales Plan	Sales and Marketing	S&M/COM/003
New hybrid producibility	SPR & Breeder	-
Breeder Seed	Breeder	-
Breeder seed parental characters	Breeder	-
Quality results	Quality	QAS/COM/020
Parent seed indent	Production	GEN/COM/032

Key Outputs

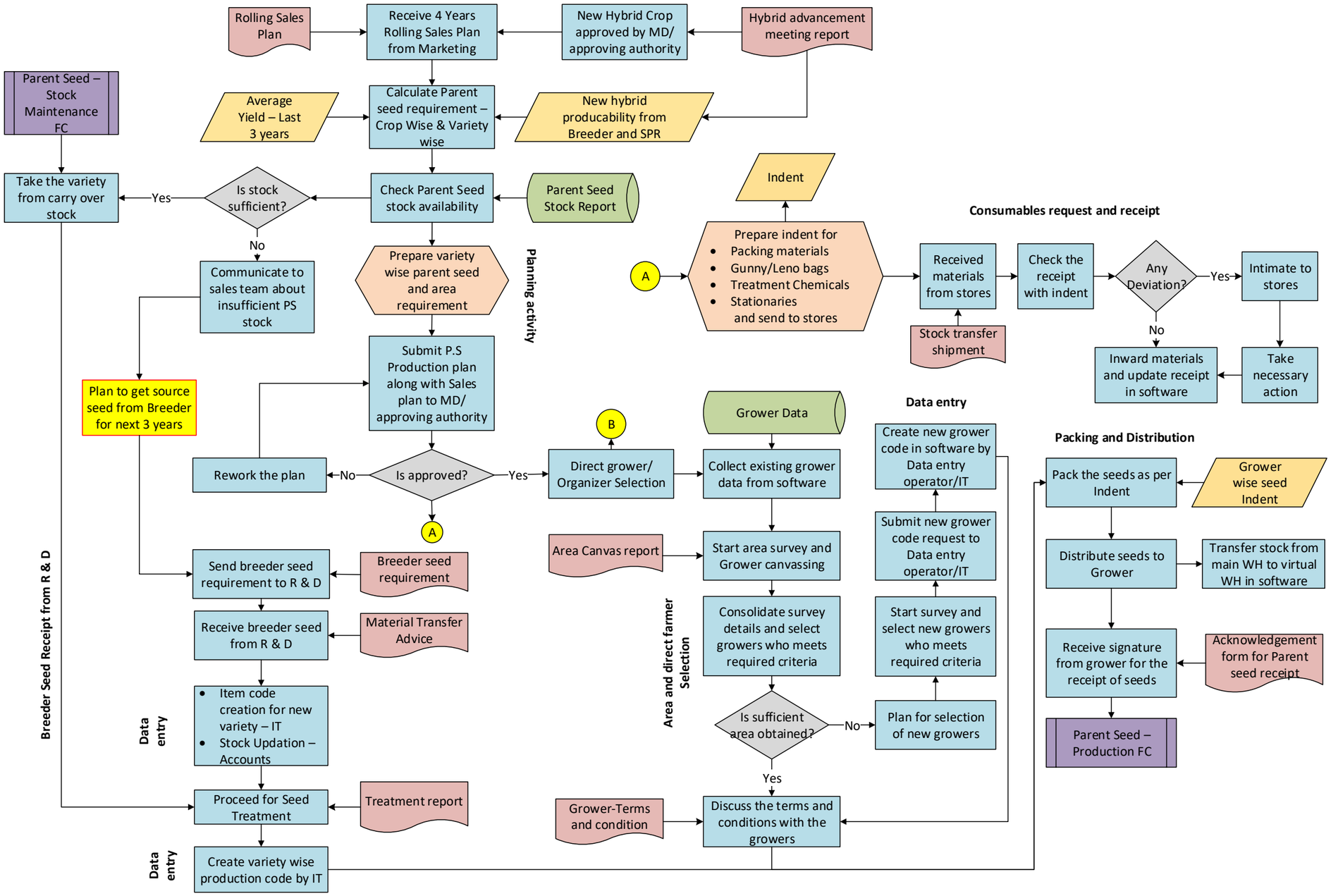
Particulars	To	Document Reference
Foundation Seeds	Growers/Organizers	-
Parent Seeds	Hybrid Production	-
Testing Samples	QC	QAS/COM/020
Terms and Conditions	Growers/Organizers/Accounts	-

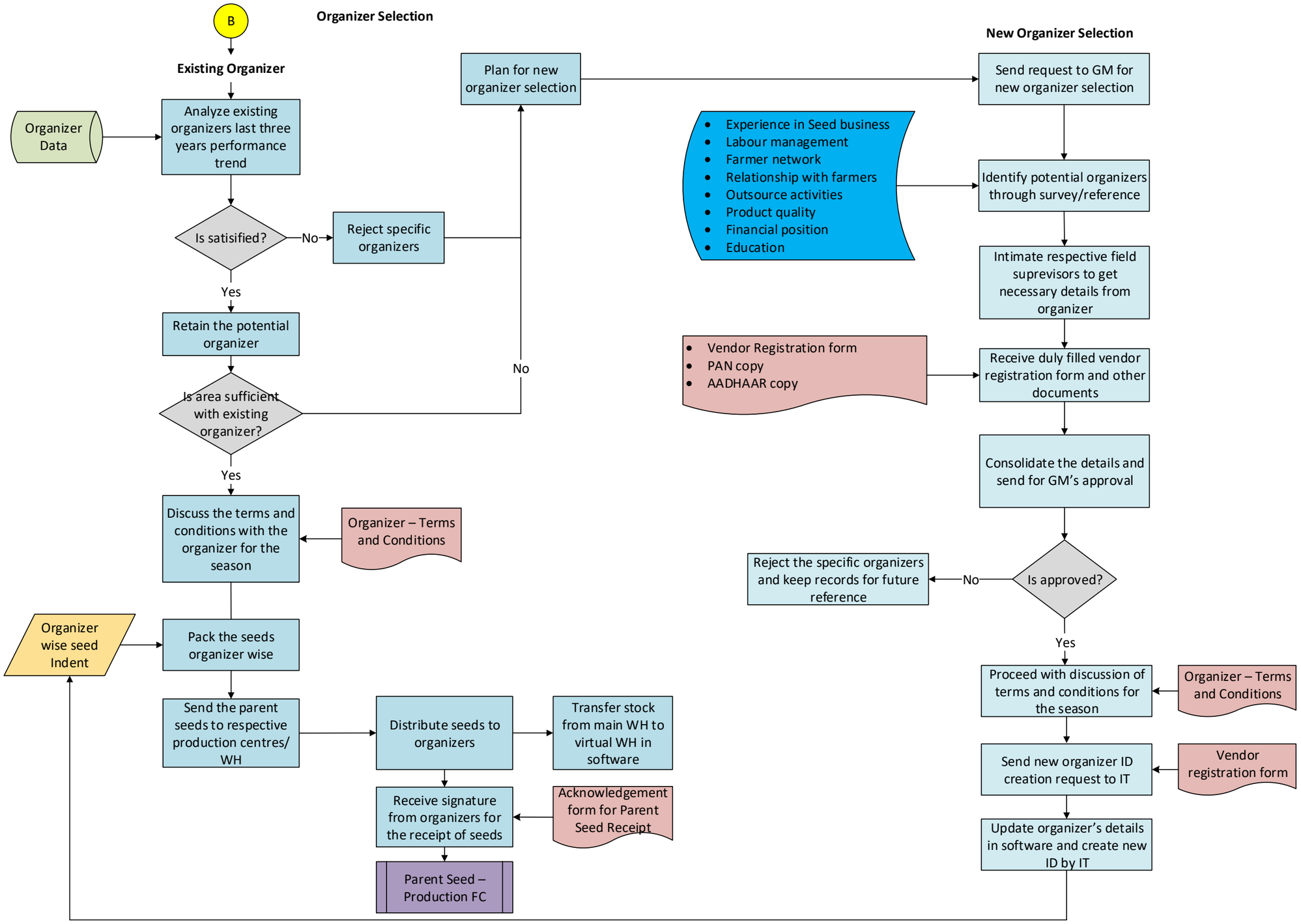
Key Documents / Register / Files

S no	Document / Register Name	Document Format	Document Reference
1	Average yield Last 3 years	Software Report	PSD/FCD/001
2	Direct Grower - Agreement - P. Seed Field Crops	Word format	PSD/FCD/002
3	Grower - Terms and Conditions - P. Seed FC	Excel	PSD/FCD/003
4	New hybrid producibility from Breeder and SPR	Word	PSD/FCD/004
5	Organizer Agreement - P. Seed Field Crops	Word format	PSD/FCD/005
6	Organizer - Terms and conditions - Field Crops	Excel	PSD/FCD/006
7	Organizer wise seed indent	Excel	PSD/FCD/007
8	Packing Indent	Excel	PSD/FCD/008
9	SPR Indent	Excel	PSD/FCD/010
10	Treatment report	Pre-printed form	PSD/FCD/011
11	Yield Estimation Report	Excel	PSD/FCD/012
12	Processing Report	Pre-printed form	PSD/FCD/013
13	Dryer Note – Air Position	Manual Register	PRC/FCD/005

S no	Document / Register Name	Document Format	Document Reference
14	Gasifier/LPG Record	Manual Register	PRC/FCD/009
15	Shelling Register	Manual Register	PRC/FCD/015
16	Hybrid Advancement Report	Excel	PDD/COM/009
17	GC transfer list	Software form	QAS/COM/008
18	Out Gate Pass	Pre-printed form	GEN/COM/001
19	Acknowledgement form for Parent Seed receipt	Pre-printed form	GEN/COM/002
20	Area Canvas Report	Excel	GEN/COM/003
21	Blower Reading	Manual Register	GEN/COM/041
22	Cob drying details book	Pre-printed form	GEN/COM/042
23	Grower Data	Software report	GEN/COM/005
24	Grower wise seed indent	Excel	GEN/COM/007
25	Indent	Excel	GEN/COM/008
26	Inward register	Manual Register	GEN/COM/043
27	Material inward advice	Pre-printed form	GEN/COM/011
28	Material Transfer advice	Pre-printed form	GEN/COM/012
29	Organizer Data	Software Report	GEN/COM/030
30	Organizer Payment check sheet	Excel	GEN/COM/031
31	Packing Slip	Software form	GEN/COM/013
32	Parent Seed Stock report	Software Report	GEN/COM/015
33	Parent seed stock transfer note	Pre-printed form	GEN/COM/016
34	Parent wise foundation seed requirement	Excel	GEN/COM/017
35	Roguing Report	Pre-printed form	GEN/COM/019
36	Seed Dispatch Note for Field Run Seed	Pre-printed form	GEN/COM/020
37	Sowing Report - P. Seed FC	Pre-printed form	GEN/COM/044
38	Stock Transfer Shipment	Software form	GEN/COM/009
39	Vendor Registration Form	Word	GEN/COM/027
40	Rolling Sales Plan	Excel	S&M/COM/003

2.B.1. PARENT SEED PRODUCTION PLANNING – FC




B
Organizer Selection
Existing Organizer
Organizer Data
Analyze existing organizers last three years performance trend
Is satisified?
No
Reject specific organizers
Yes
Retain the potential organizer
Is area sufficient with existing organizer?
No
Yes
Discuss the terms and conditions with the organizer for the season
Organizer – Terms and Conditions
Organizer wise seed Indent
Pack the seeds organizer wise
Send the parent seeds to respective production centres/ WH
Distribute seeds to organizers
Transfer stock from main WH to virtual WH in software
Receive signature from organizers for the receipt of seeds
Acknowledgement form for Parent Seed Receipt
Parent Seed – Production FC
Plan for new organizer selection
New Organizer Selection
Send request to GM for new organizer selection
Experience in Seed business
Labour management
Farmer network
Relationship with farmers
Outsource activities
Product quality
Financial position
Education
Identify potential organizers through survey/reference
Intimate respective field suprevisors to get necessary details from organizer
Vendor Registration form
PAN copy
AADHAAR copy
Receive duly filled vendor registration form and other documents
Consolidate the details and send for GM's approval
Is approved?
No
Reject the specific organizers and keep records for future reference
Yes
Proceed with discussion of terms and conditions for the season
Organizer – Terms and Conditions
Send new organizer ID creation request to IT
Vendor registration form
Update organizer's details in software and create new ID by IT

Sub-process Owner:
Parent Seed – Manager FC

Departments Involved:
Marketing
Parent Seed
R&D
Stores
Accounts

Key activities:
2. B.1.1 Preparation of production plan for parent seeds
2. B.1.2 Breeder seed Requirement and receipt
2. B.1.3 Consumables requisition and receipt
2. B.1.4 Area Canvassing and Field Selection
2. B.1.5 Chemical treatment
2. B.1.6 Code Allocation
2. B.1.7 Parent seed packing and distribution
2. B.1.8 Existing organizer selection
2. B.1.9 New organizer selection

Process	Maker	Checker	Approver
2. B.1.1 Preparation of production plan for parent seeds			
1) Receive 3 years rolling sales plan and any new hybrid crop sales plan (approved by MD/approving authority) from marketing team	Parent Seed - Manager	Head – FC/Sr.GM - Mfg	
2) Calculate parent seed requirement crop wise and variety wise based on • Last 3 years average yield • New hybrid producibility from Breeder and SPR	Parent Seed - Manager	Head – FC/Sr.GM – Mfg	
3) Check the parent seed stock availability in hand by generating parent seed stock report in software	Parent Seed - Manager		
4) If stock available take the variety from carry over stock	Parent Seed - Manager		
5) If not available, communicate to sales team about insufficient parent seed stock and plan to get source from breeder for next 3 years	Parent Seed - Manager	Head – FC/Sr.GM - Mfg	
6) Prepare the area and parent seed requirement for variety wise parent seed production	Parent Seed - Manager	Head – FC/Sr.GM - Mfg	
7) Increase the area by additional 100% for all parent to meet out any natural calamities or to have buffer stock	Parent Seed - Manager	Head – FC/Sr.GM - Mfg	
8) Based on the sales plan, submit parent seed production plan & area increase plan (if required more than 100%) for Managing Director's Approval	Parent Seed - Manager	Head – FC/Sr.GM - Mfg	Managing Director

Process	Maker	Checker	Approver
9) In case of any change in the plan as per the instruction, rework the plan and send for MD/Approving authority's approval	Parent Seed - Manager	Head – FC/Sr.GM - Mfg	Managing Director
2. B.1.2 Breeder seed Requirement and receipt			
1) Prepare breeder seed requirement based on the availability of stock	Parent Seed - Manager	Head – FC/Sr.GM – Mfg	
2) Send the breeder seed requirement to R & D through mail	Parent Seed - Manager	FC breeder – R & D	
3) Receive and cross check the breeder seed with the requirement and acknowledge the Material transfer advice	Parent Seed - Manager	Head – FC/Sr.GM – Mfg	
4) Send the breeder seed receipt details with code to accounts department for updation of entry into software	Parent Seed - Manager		
5) Stock updation into the software for existing variety	Dy Manager-Accounts	Parent Seed – Manager	
6) Send new variety breeder seed details to IT for creating new code	Parent Seed - Manager		
7) Code creation for new variety breeder seed in software by IT	IT - Executive	Parent Seed - Manager	
2. B.1.3 Consumables requisition and receipt			
1) Prepare indent for the following based on approved parent seed production plan and send to stores, • Packing materials • Gunny bags/Leno bags • Treatment chemicals • Stationaries	Unit supervisor	Manager-Parent Seed	
2) Receive the materials from stores and check the receipt	Unit supervisor	Manager-Parent Seed	
3) In case of any deviation, inform to stores for corrective action	Unit supervisor	Manager-Parent Seed	
4) If no deviation, inward the materials and update receipt in software	Data entry operator	Manager-Parent Seed	
2. B.1.4 Area Canvasing and field Selection			
1) Execute area visit for canvasing the existing farmers/growers based on the grower data available in software	Field Supervisor /Field assistants	Assistant Manager	
2) Details of growers to be updated in area canvas report	Field Supervisor /Field assistants	Assistant Manager	
3) Consolidate and select the growers who meets required field criteria as follows, • Previous harvested crop should not be the same crop • Required isolation distance • Good fertility and water source • Previous history (For Existing growers) – Hybrid produced, area utilized, Yield etc.	Field assistants/Supervisor	Assistant Manager/Parent Seed - Manager	Head – FC/Sr.GM – Mfg

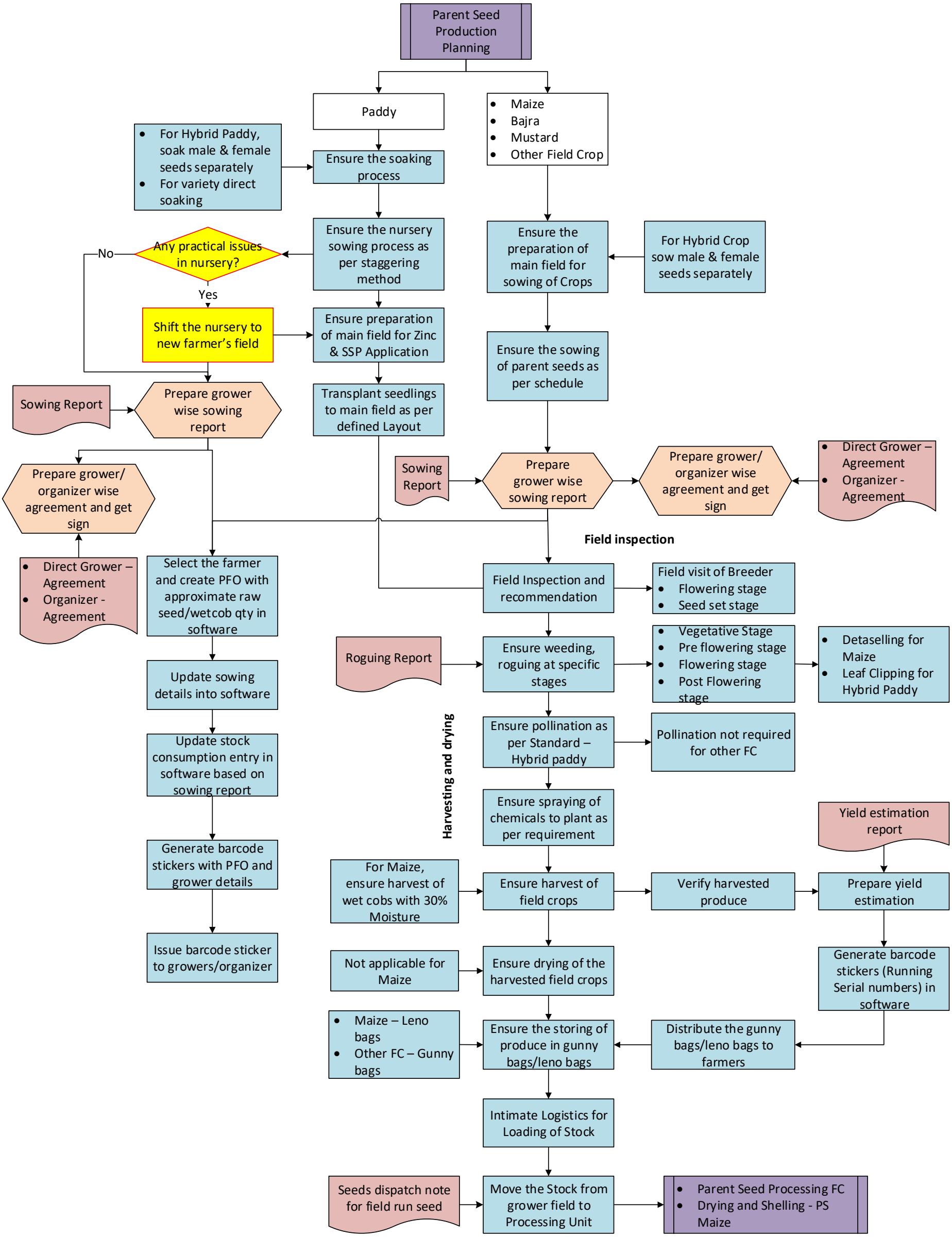
Process	Maker	Checker	Approver
4) In case of scarcity of area, plan for selecting the new growers	Assistant Manager/Field Supervisor	Parent Seed – manager	
5) Inform the Field Assistants to conduct survey and canvas of new growers in their location. • Farmer willingness and capacity • Area measurement – Manual • Isolation distance • Shadow effect (trees) • Drainage facility (low level land) • Irrigation facility • Labour source • Neighborhood field – crop, distance, etc. • Land type – lease/own • Land Survey Number • AADHAAR number	Assistant Manager/Field Supervisor	Parent Seed - manager	
6) Consolidate the new grower survey details and submit to Deputy Managers	Field Assistants/Field supervisors	Assistant Manager /Parent Seed – Manager	
7) Select the growers who meet the requirements for the required area	Assistant Manager /Parent Seed – Manager	Head – FC/Sr.GM – Mfg	
8) Collect necessary details and documents from the new grower • Address proof • PAN copy • Bank pass book copy • AADHAAR copy • Contact No • Land Survey Number	Field Assistants/Field supervisors	Assistant Manager	
9) Prepare the new Farmer ID request and submit along with above details to IT (bulk list) or data entry operators (smaller list)	Assistant Manager/Field Supervisor	Parent Seed – manager	
10)Update the grower details and create new Farmer ID in software	IT – Executive/Data Entry Operator		
11)Distribute the terms and conditions with growers to field assistants	Parent Seed – manager		
12)Take the agreement copies to respective fields and Get acknowledgement from grower in the agreement	Field Assistants/ Field supervisor	Assistant Manager	
13)Prepare indent for packing to approved growers for their area and volume	Field assistants/ Supervisor	Assistant Manager	
2. B.1.5 Chemical treatment			

Process	Maker	Checker	Approver
1) Treat the breeder seeds received from R & D and parent seeds from existing stock with chemical manually using imida, vitavax and polymer	Unit Supervisor	Parent Seed – Manager	
2. B.1.6 Code allocation			
1) Allot code number to each variety of parent seed with year specification for tracking and to maintain confidentiality of variety distributed	Parent Seed - Manager	GM – FC	
2) Send the following details to IT department to create production item code in the system • Actual variety • Production code • Class of seed • Year of production • Crop Code • Crop Name • Season • Location • Own/Organizer production • Rate • Payment terms	Parent Seed - Manager	GM – FC	
3) Create production item code in system	IT - Executive	Parent Seed – Manager	
2. B.1.7 Parent seed Packing and Distribution			
1) Manually pack the seeds based on grower wise indent	Unit Supervisor	Parent Seed – Manager	
2) Provide the parent seeds to the Field supervisors/assistants to be distributed to concerned growers along with farm card mentioning variety, lot details	Assistant Manager	Parent Seed – Manager	
3) Transfer the stock from main warehouse to virtual warehouse in software for the foundation seeds distributed to growers	Data entry operator	Assistant Manager/ Manager-Parent Seed	
4) Distribute the seeds to concerned growers and get acknowledgment from them in Parent seed acknowledgement receipt form	Field Supervisors/Field Assistants	Assistant Manager/ Manager-Parent Seed	
2. B.1.8 Existing Organizers selection			
1) Analyze existing organizers last three years performance trend	Manager-Parent Seed		
2) If not satisfied, reject the specific organizers and plan for selection of new organizers	Manager-Parent Seed		
3) If satisfied, retain the potential organizer and check whether the area available with them is sufficient for current year production	Manager-Parent Seed		

Process	Maker	Checker	Approver
4) If not sufficient, plan for selection of new organizers	Manager-Parent Seed		
5) If sufficient, discuss the terms and conditions with the organizer for current season	Manager-Parent Seed		
6) Pack the parent seeds organizer wise as per indent	Manager-Parent Seed		
7) Send the parent seeds to respective production centers/warehouse	Manager-Parent Seed		
8) Distribute the parent seeds to organizers and get acknowledgement from them	Field Supervisors/ Field Assistants	Assistant Manager/ Manager-Parent Seed	
9) Transfer the stock from main warehouse to virtual warehouse in software for the foundation seeds distributed to organizers	Data entry operator	Manager-Parent Seed	
2. B.1.9 New Organizer Selection			
1) Send request to Sr.GM - MFG for selection of new organizers	Manager-Parent Seed	Head – FC/Sr.GM – MFG	
2) Get the organizers details in the specific location and start survey • Capacity • Manpower • Outsource activities • Goodwill with farmer • Farmer network • Outsource products & qualities • Financial Position • Duration of seed business • Education	Field Supervisors/Field Assistants	Assistant Manager/Manager-Parent Seed	
3) Collect necessary documents from the new organizers • Vendor Registration form • PAN • Bank account details with cancelled cheque leaf • Address proof • RC copy	Field Supervisors/Field Assistants	Assistant Manager/Manager-Parent Seed	
4) Consolidate the details and send for Sr.GM's approval	Field Supervisors/Field Assistants	Manager-Parent Seed/Head – FC	Sr.GM – MFG
5) If not approved, reject the specific organizer and keep records for future reference	Assistant Manager	Manager-Parent Seed	
6) If approved, discuss the terms and conditions for the current season	Assistant Manager	Manager-Parent Seed	

Process	Maker	Checker	Approver
7) Send organizers code creation request to IT • Organizer name • Address • Name as per Bank record • Bank name and branch • Account No • RTGS/ IFSC code • PAN • AADHAAR • GST	Assistant Manager	Manager-Parent Seed	
8) Update organizers details and create new code for organizers in software	IT Executive/Data entry operator	Manager-Parent Seed	
9) Pack the parent seeds organizer wise as per indent	Assistant Manager	Manager-Parent Seed	
10) Send the parent seeds to respective production centers/warehouse	Assistant Manager	Manager-Parent Seed	
11) Distribute the parent seeds to organizers and get acknowledgement from them	Field Supervisors/Field Assistants	Assistant Manager/Manager-Parent Seed	
12) Transfer the stock from main warehouse to virtual warehouse in software for the foundation seeds distributed to organizers	Data entry operator	Manager-Parent Seed	

2. B.2 PARENT SEED PRODUCTION – FC



Sub-process Owner:

Parent Seed – Manager FC

Departments Involved:

Parent Seed

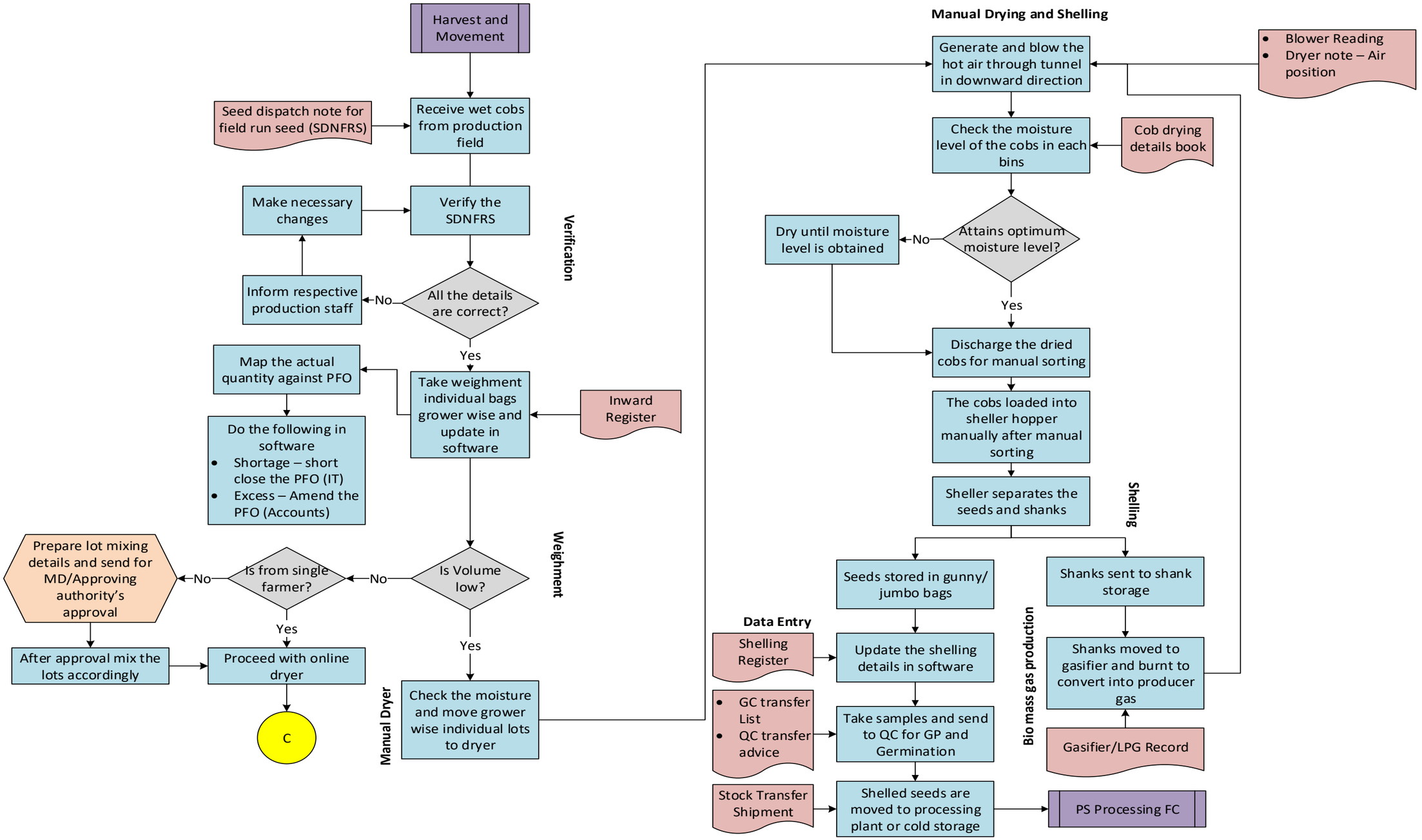
Key activities:

2. B.2.1 Field preparation and sowing
2. B.2.2 Field Inspection and Recommendation
2. B.2.3 Harvest and Movement

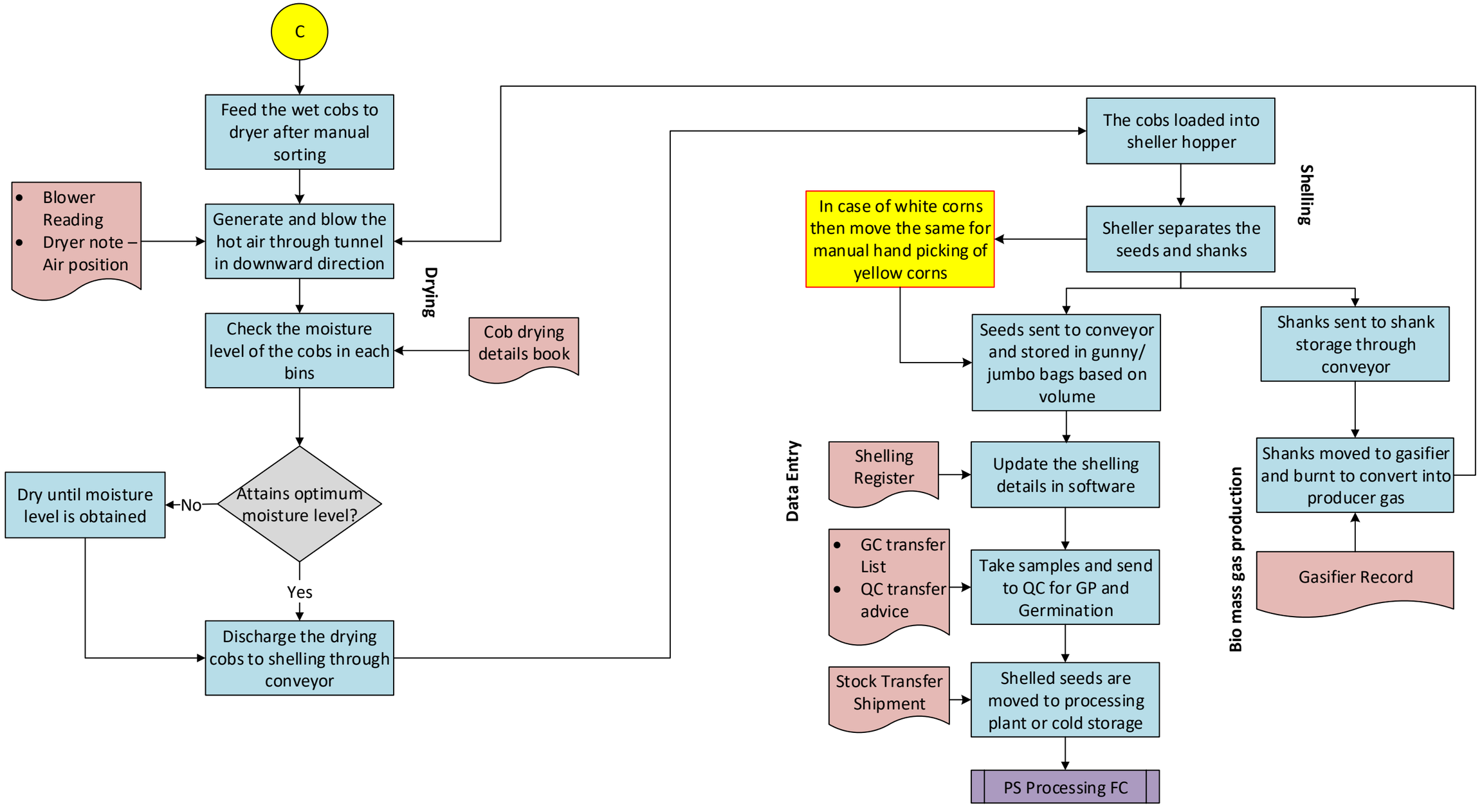
Process	Maker	Checker	Approver
2. B.2.1 Field preparation and sowing			
Paddy			
1) Ensure paddy crop on production and its soaking process for male and female hybrid paddy seeds separately	Field Supervisor/ assistant	Assistant Manager	
2) Check whether the nursery sowing process is as per staggering method and ensure the transplanting of germination seeds to the main field is as per the defined layout	Field Supervisor/ assistant	Assistant Manager	
3) In case of any practical issues in nursery field such as isolation/irrigation/electricity etc., then the seeds can be shifted to new farmer's field and followed by transplanting of germinated seeds into main field as per defined layout	Field Supervisor/ assistant	Assistant Manager	
4) Prepare sowing report for paddy after nursery sowing process	Field Supervisor/ assistant	Assistant Manager	
5) Prepare grower/organizer wise agreement and get signed copies	Field Supervisor/ assistant	Assistant Manager	
6) Select the farmer and create PFO with approximate raw seed quantity in software and update sowing details into software	Field Supervisor/ assistant	Assistant Manager	
7) Update stock consumption entry in software based on sowing report	Data entry operator	Assistant Manager	
8) Generate barcode stickers with PFO and grower details	Data entry operator	Assistant Manager	
9) Issue barcode stickers to growers/organizers	Field Supervisor/ assistant	Assistant Manager	
10) Ensure preparation of main field for Zinc and SSP application	Field Supervisor/ assistant	Assistant Manager	
11) Transplant seedlings to main field as per defined layout	Field Supervisor/ assistant	Assistant Manager	
Other Field Crops			
1) Ensure the preparation of main field for sowing of other field crops in which sow the hybrid male & Female seed separately	Field Supervisor/ assistant	Assistant Manager	
2) Ensure the sowing of parent seed as per schedule and prepare grower wise sowing report	Field Supervisor/ assistant	Assistant Manager	

Process	Maker	Checker	Approver
3) Select the farmer and create PFO with approximate raw seed / wet cob quantity in software and update sowing details into software	Data entry operator	Assistant Manager	
4) Update stock consumption entry as per sowing report in the software and generate and issue barcode sticker with PFO and grower details to growers/organizers	Data entry operator	Assistant Manager	
2. B.2.2 Field inspection			
1) Inspection of field by respective breeder during • Flowering stage • Seed set stage	Field Supervisor/ assistant	Assistant Manager	
2) Ensure weeding and rouging as per the following stages, • Vegetative stage • Pre-flowering stage • Flowering stage • Post flowering stage Ensure Detaselling for Maize and leaf clipping for Hybrid Paddy	Field Supervisor/ assistant	Assistant Manager	
3) Ensure pollination as per standards for hybrid paddy (Pollination not required for other field crops)	Field Supervisor/ assistant	Assistant Manager	
4) Ensure spraying of chemicals to plant as per requirement	Field Supervisor/ assistant	Assistant Manager	
2.B.2.3 Harvest and Movement			
1) Ensure the harvest of field crops and Prepare yield estimation. Ensure the harvest of wet cobs of maize with 30% moisture	Field Supervisor/ assistant	Assistant Manager	
5) Ensure the drying of the harvested field crops (not applicable for maize)	Field Supervisor/ assistant	Assistant Manager	
6) Generate running serial barcode stickers based on the yield estimation in software	Data entry operator	Assistant Manager	
7) Distribute gunny bags/leno bags to growers	Field Supervisor/ assistant	Assistant Manager	
8) Ensure the storing of produce separately in bags as below, • Maize – Leno bags • Others FC – Gunny bags	Field Supervisor/ assistant	Assistant Manager	
9) Intimate logistics for loading of stock and move the stock from grower field to processing unit	Field Supervisor/ assistant	Assistant Manager	
10) Move the stock from grower field to respective processing unit through Seed dispatch note for field run seed	Field Supervisor/ assistant	Assistant Manager	

2. B.3 DRYING AND SHELLING – PS MAIZE



Online Drying and Shelling



Sub-process Owner:

Parent Seed – Manager FC

Departments Involved:

Parent Seed

Processing

Key activities:

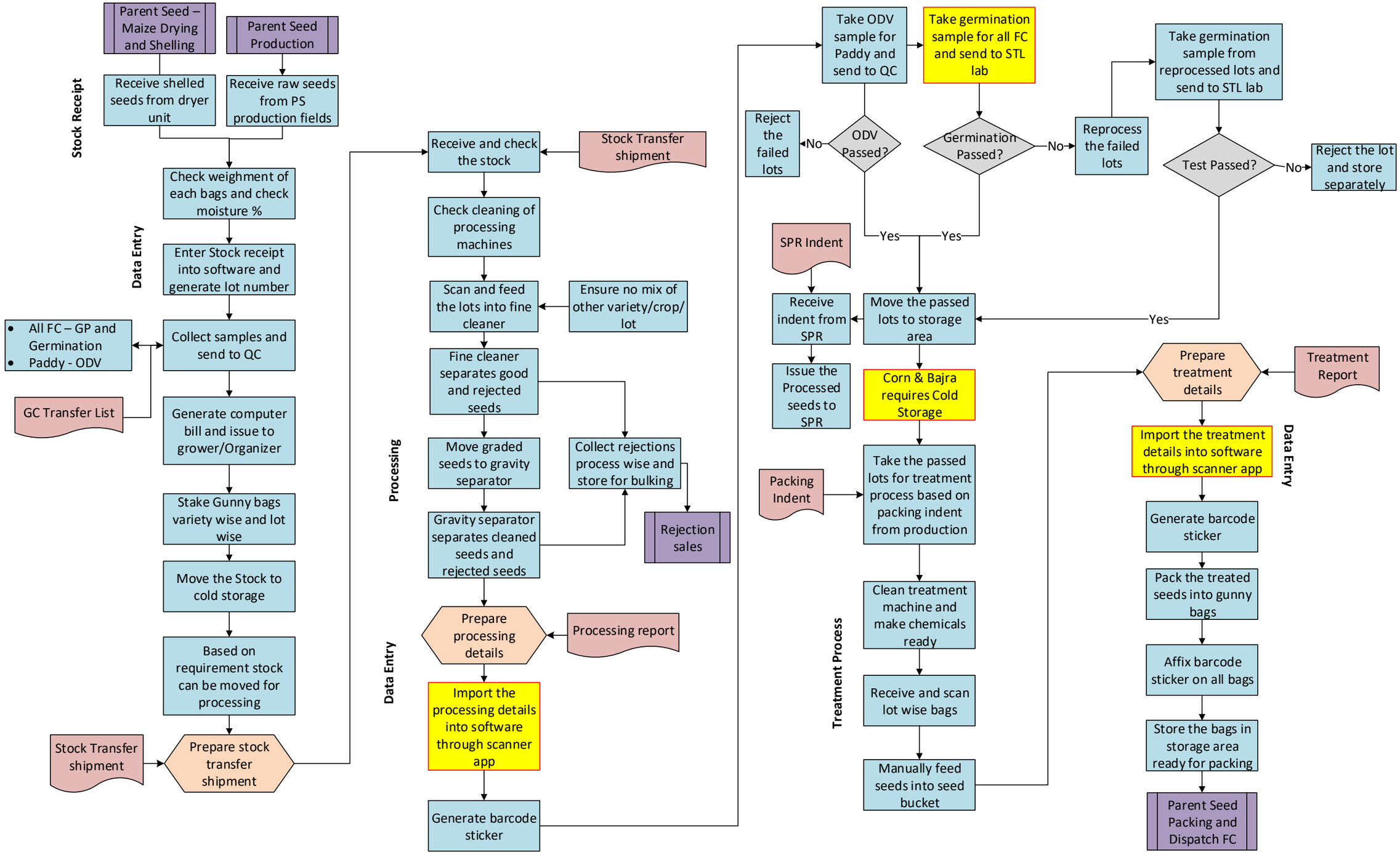
2. B.3.1 Receipt of wet cobs
2. B.3.2 Manual drying and shelling
2. B.3.3 Online drying and shelling

Process	Maker	Checker	Approver
2. B.3.1 Receipt of wet cobs			
1) Receive wet cobs from production field through seed dispatch note for field run seed (SDNFRS)	Unit supervisor	Assistant Manager	
2) Record the weigh in the inward register using electronic weigh bridge to arrive gross and net weight	Unit supervisor	Assistant Manager	
3) Verify the SDNFRS to ensure if all the details are correct.	Unit supervisor	Assistant Manager	
4) In case of deviation inform the respective production, staff and make necessary changes	Unit supervisor	Assistant Manager	
5) If all details are correct, then take weighment of individual bags grower wise and update in software	Unit supervisor	Assistant Manager	
6) Map the actual quantity of wet cobs against the PFO in software	Data entry operator	Unit supervisor	
7) Do the following in software, • In case of shortage qty – Short close the PFO by IT • In case of excess qty – amend the PFO by accounts	Data entry operator	Executive – IT/Dy. Manager – Accounts	
8) Check the volume of receipt to identify whether it can be processed through manual dryer or online dryer	Unit supervisor	Assistant Manager	
9) If the volume is high then prepare lot mixing details and send for MD/approving authority's approval	Assistant Manager	Parent Seed - Manager	Managing Director
10) After approval mix the lots of cobs and proceed for online drying	Unit supervisor	Assistant Manager	
11) If the volume is lot then plan for manual drying	Unit supervisor	Assistant Manager	
2. B.3.2 Manual Drying			
1) Check the moisture and move grower wise individual lots to manual dryer	Unit supervisor	Assistant Manager	
2) Blow the hot air through tunnel in downward direction and update the details in • Blower reading	Unit supervisor	Assistant Manager	

Process	Maker	Checker	Approver
• Dryer note air position			
3) Check the moisture level of the cobs in each bin and record the same in cob drying details book	Unit supervisor	Assistant Manager	
4) Check whether the cob has attained the optimum moisture level	Unit supervisor	Assistant Manager	
5) If the moisture level is not optimum then dry the cob until the moisture level is obtained	Unit supervisor	Assistant Manager	
6) Discharge the dried cobs for manual sorting	Unit supervisor	Assistant Manager	
7) Sort the immature, infected cobs manually	Unit supervisor	Assistant Manager	
8) The cobs are loaded in the sheller hopper after manual sorting	Unit supervisor	Assistant Manager	
9) The sheller separates the seeds and shanks	Unit supervisor	Assistant Manager	
10) Shanks sent to shank storage through conveyor are moved to gasifier and burnt to produce gas. • Gasifier/LPG record	Unit supervisor	Assistant Manager	
11) Seeds are stored in gunny or jumbo bags based on the volume	Unit supervisor	Assistant Manager	
12) Update the shelling details in the software	Data entry operator	Assistant Manager	
13) Take samples and send to QC for GP and Germination test	Unit supervisor	Assistant Manager	
14) Move the seeds to processing plant or cold storage through stock transfer shipment	Unit supervisor	Assistant Manager	
2. B.3.3 Online Drying			
1) Feed the wet cobs to dryer after manual sorting	Unit supervisor	Assistant Manager	
2) Generate and blow the hot air through tunnel in downward direction and update the details in • Blower reading • Dryer note air position	Unit supervisor	Assistant Manager	
3) Check the moisture level of the cobs in each bin and record the same in cob drying details book	Unit supervisor	Assistant Manager	
4) Check whether the cob has attained the optimum moisture level	Unit supervisor	Assistant Manager	
5) If the moisture level is not optimum then dry the cob until the moisture level is obtained	Unit supervisor	Assistant Manager	
6) Discharge the dried cobs to shelling through conveyor	Unit supervisor	Assistant Manager	
7) The cobs are loaded in the sheller hopper	Unit supervisor	Assistant Manager	

Process	Maker	Checker	Approver
8) The sheller separates the seeds and shanks	Unit supervisor	Assistant Manager	
9) Shanks sent to shank storage through conveyor are moved to gasifier and burnt to produce gas. • Gasifier/LPG record	Unit supervisor	Assistant Manager	
10) In case of white corns then the same has to be moved to hand picking area for manual hand picking of yellow corns in it	Unit supervisor	Assistant Manager	
11) Seeds are stored in gunny or jumbo bags based on the volume	Unit supervisor	Assistant Manager	
12) Update the shelling details in the software	Data entry operator	Assistant Manager	
13) Take samples and send to QC for GP and Germination test	Unit supervisor	Assistant Manager	
14) Move the seeds to processing plant or cold storage through stock transfer shipment	Unit supervisor	Assistant Manager	

2. B.4. PARENT SEED PROCESSING – FC



Sub-process Owner:

Manager – Parent Seed

Departments Involved:

Parent Seed
Stores
IT
QC

Key activities:

2. B.4.1 Seeds Receipt for Processing
2. B.4.2 Seed Processing
2. B.4.3 Seed treatment and Drying Process

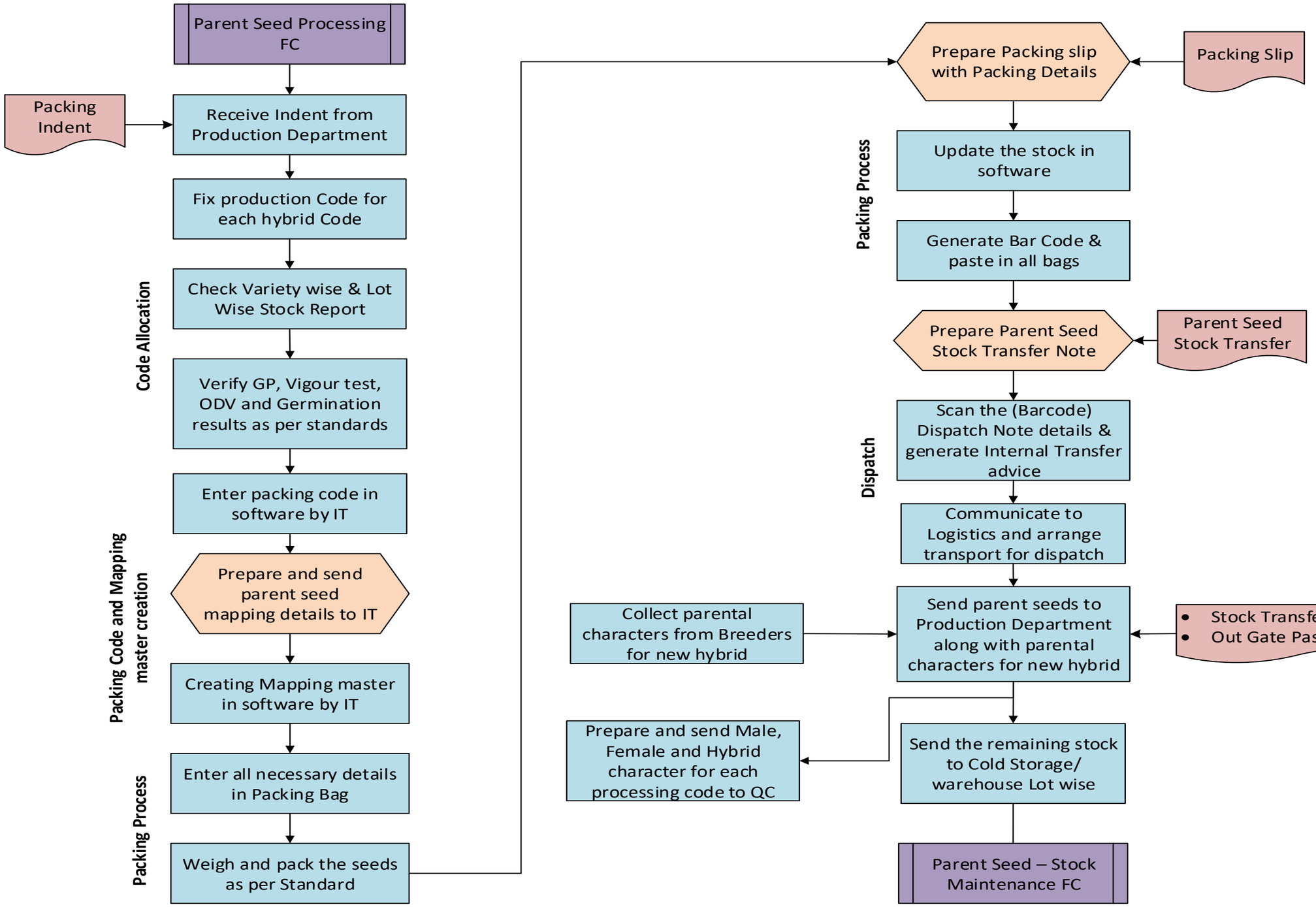
Process	Maker	Checker	Approver
2. B.4.1. Seeds Receipt for Processing			
1) Receive shelled seeds from dryer unit and raw seeds from parent seed production fields	Unit supervisor	Assistant Manager	
2) Check weighment of each bags and moisture %	Unit supervisor	Assistant Manager	
3) Enter stock receipt into software and generate lot number	Data entry operator	Assistant Manager	
4) Collect samples for GP, Germination and ODV and send to QC	Unit supervisor	Assistant Manager	
5) Generate computer bill and issue to organizer/grower	Data entry operator	Assistant Manager	
6) Stake gunny bags variety wise and lot wise	Unit supervisor	Assistant Manager	
7) Based on requirement move the stock for processing unit and move the balance seeds to cold storage through stock transfer shipment	Unit supervisor	Assistant Manager	
8) Receive the seeds at processing unit and check the stock	Unit supervisor	Assistant Manager	
2. B.4.2 Seed Processing			
1) Clean the machines before seed grading	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
2) Select correct size of screens and insert into sieve boat	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
3) Adjust the grader based on the following ➢ Feeding rate ➢ Pre-aspiration ➢ Fine aspiration	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
4) Scan all the lots and check for the variety and other required details	Unit Supervisor	Assistant Manager	

Process	Maker	Checker	Approver
5) Feed the seeds into grading machine	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
6) Open hopper slide gate gradually until proper flow rate is achieved and make adjustment for material flow rate & aspiration	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
7) Check the seed material is spread well on the screen	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
8) Inspect the waste product from the screw conveyor.	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
9) Analyze the waste and good product	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
10) Repeat until the maximum separation is done	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
11) Collect the pre-fine cleaner rejection	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
12) Move the graded seeds to gravity separator	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
13) Collect the rejections in the rejection outlet and bulk the rejections for waste sales	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
14) Gravity Adjustments should be made based on the following ➢ Feed rate ➢ Air control ➢ End raise ➢ Side Tilt ➢ Eccentric speed	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
15) Feed the grade seeds into gravity separator	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
16) Open the hopper slide until proper flow rate is achieved	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
17) Adjust the material flow rate and air volume	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
18) Confirm good material is seated on the deck and reject the material floating	Processing Operator	Unit Supervisor	

Process	Maker	Checker	Approver
In Gravity separator two levels of output were received ➢ Cleaned seeds ➢ Rejected seeds			
19) Adjust the cutting finger according to the result, until maximum separation is done	Processing Operator	Unit Supervisor	
20) Assure high end seeds are cleaned and sorted	Processing Operator	Unit Supervisor	
21) Enter the processing details in online processing report as follows, ➢ Variety ➢ LOT No ➢ Delinted Seed ➢ Process Cleaned Seed ➢ Rejections – Grader, Gravity, IT, Total ➢ Loss % ➢ Remarks	Processing Operator/Unit Supervisor	Assistant Manager/Unit Supervisor	
22) Import the Processing details into software through scanner app interface	Data entry operator	Unit Supervisor	
23) Generate bar code sticker from software	Data entry operator	Unit Supervisor	
24) Take ODV sample for Paddy and send to QC	Unit Supervisor	Assistant Manager	
25) If ODV test failed, reject the failed lots	Unit Supervisor	Assistant Manager	
26) If ODV test passed, move the ODV passed lots to storage area	Unit Supervisor	Assistant Manager	
27) Take germination samples for other field crops and send to STL lab	Unit Supervisor	Assistant Manager	
28) If the germination result is failed, then reprocess the failed lots	Unit Supervisor	Assistant Manager	
29) Take germination samples from the reprocessed lots and sent to STL lab	Unit Supervisor	Assistant Manager	
30) If the germination result is failed, reject the specific lots and store separately	Unit Supervisor	Assistant Manager	
31) Move the germination passed lots to storage area (Corn & Bajra requires cold storage)	Unit Supervisor	Assistant Manager	
32) Receive indent from Seed production research and issue seeds to SPR	Unit Supervisor	Assistant Manager	
33) Take the QC passed lots for treatment based on packing indent from production	Unit Supervisor	Assistant Manager	
2. B.4.3 Seed Treatment & Drying Process			
1) Clean the machine fully before changing each variety	Treatment Operator	Unit Supervisor	

Process	Maker	Checker	Approver
2) Check and weigh the chemicals like insecticide, fungicide, polymer and water as per standard	Treatment Operator	Unit Supervisor	
3) Mix the chemicals, filter and pour it into the seed treating chemical drum	Treatment Operator	Unit Supervisor	
4) Check and scan the lots before feeding	Treatment Operator	Unit Supervisor	
5) Check and set the seed rate and chemical application rate in the PLC control panel	Treatment Operator	Unit Supervisor	
6) Start the machine and manually feed the seeds into the seed bucket	Treatment Operator	Unit Supervisor	
7) Check each batch seed coating, if untreated seed comes stop the machine and clean the chemical dosing tubes	Treatment Operator	Unit Supervisor	
8) Check the initial seed moisture	Treatment Operator	Unit Supervisor	
9) Check ambient temperature and relative humidity	Treatment Operator	Unit Supervisor	
10) Check the seed moisture optimum level to be attained 7.5%	Treatment Operator	Unit Supervisor	
11) Discharge the seed slowly and standardize the weight	Treatment Operator	Unit Supervisor	
12) Record the details in treatment report ➢ Date ➢ Variety ➢ LOT No ➢ Qty taken for treatment ➢ Qty treated ➢ Balance Qty	Treatment Operator	Unit Supervisor	
13) Record the chemical treatment details in software	Data entry operator	Unit Supervisor	
14) Generate bar code sticker	Data entry operator	Unit Supervisor	
15) Pack the treated seeds into 70 Kgs bags	Treatment Operator	Unit Supervisor	
16) Stitch the bags and affix labels on each bag contains the following, ➢ Variety ➢ Lot number ➢ No of bags ➢ Barcode sticker	Treatment Operator	Unit Supervisor	
17) Store the treated bags in storage area which are ready for packing and dispatch	Treatment Operator	Unit Supervisor	
18) Generate treatment report from software and verify on daily basis	Unit Supervisor	Asst. Manager	

2. B.5. PARENT SEED PACKING AND DISPATCH – FC



Sub-process Owner:

Manager – Parent Seed

Departments Involved:

Parent Seed
R & D
Stores
Production – Cotton
IT
QC

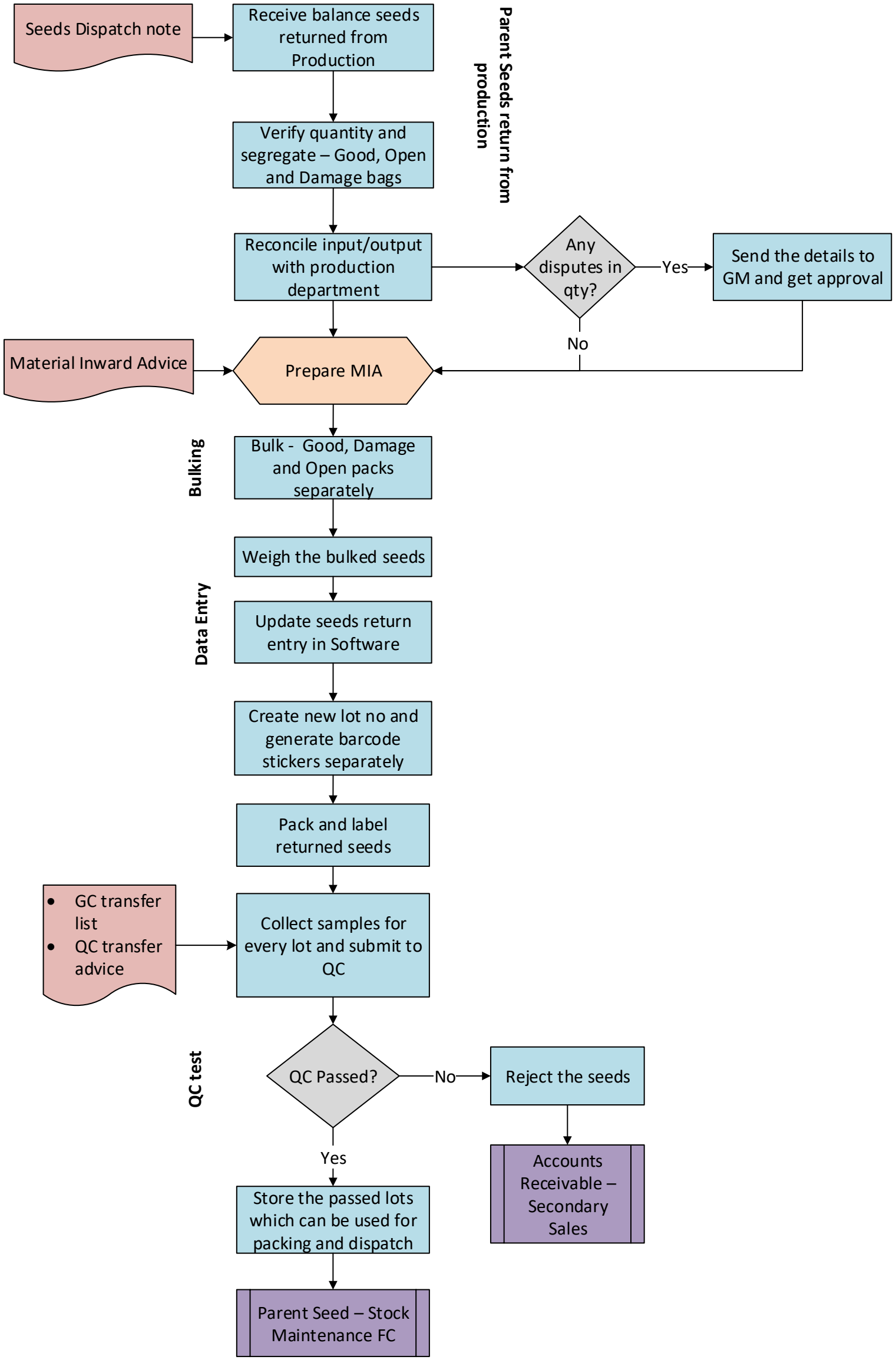
Key activities:

2. B.5.1 Packing
2. B.5.2 Dispatch
2. B.5.3 Inputs for Hybrid Production

Process	Maker	Checker	Approver
2. B.5.1 Packing			
1) Receive indent with hybrid wise packing code from production department for packing	Parent Seed - Manager	Head – FC/Sr.GM – MFG	
2) The following steps to be considered for standard or grower wise packing • Fix the hybrid code vs Production code • Fix the actual Male/Female parent to every production code	Parent Seed - Manager		
3) Get confirmation from concerned breeder for Hybrid and its parent	Parent Seed - Manager	FC – Breeder	
4) Take variety wise and lot wise stock report for packing and verify the GP, Vigour test, ODV, Field emergence and germination results as per standards	Parent Seed - Manager		
5) Send packing code approval to IT department and create packing item code in system	Parent Seed - Manager		
6) Prepare and send the parent seed mapping details to IT for creating mapping master	Parent Seed - Manager		
7) Create Parent seed mapping master in software	IT Executive	Parent Seed – Manager	
8) Write the cloth bag before packing with packing code, Male or female, Acre, seed quantity and lot number	Packing staff/Labors		
9) Weigh every bag as per the indent and stitch with bag closer	Packing staff/Labors		
10)Prepare packing slip with details of packing	Unit Supervisor		
11) Update packing slip details into software	Data entry operator	Parent Seed - Manager	

Process	Maker	Checker	Approver
12)Generate bar code labels for every packet and paste in the cloth bag	Data entry operator	Parent Seed - Manager	
13)Prepare parent seed stock transfer note having the details of packing code, Male / Female, lot no., Packing size, no. of packets, total quantity, total acre, GP and Germination	Unit Supervisor	Parent Seed - Manager	
14)Loading the dispatch note details in the scanner before dispatch and generate internal transfer advice	Unit Supervisor	Parent Seed - Manager	
2. B.5.2 Dispatch			
1) After scanning, prepare stock transfer shipment in software to be transferred to respective production warehouse	Data entry operator	Parent Seed - Manager	
2) Communicate to logistics for transportation to dispatch the seeds	Unit Supervisor	Parent Seed - Manager	
3) Store the remaining bags in warehouse	Unit Supervisor	Parent Seed - Manager	
2. B.5.3 Inputs for Hybrid Production			
1) Collect parental characters from concern breeders for new hybrid	Parent Seed – Manager	Head – FC/Sr.GM - MFG	
2) Send parent seed and parental characters for new hybrid to production department using stock transfer shipment and out gate pass	Parent Seed – Manager		
3) Prepare and provide male, female and hybrid F1 character for each processing code to quality control department	Parent Seed – Manager		
4) Send the remaining stock to cold storage warehouse lot wise	Parent Seed – Manager		

2. B.6. UNSOWN RETURN PARENT SEED BULKING - FC



Sub-process Owner:

Manager – Parent Seed

Departments Involved:

Parent Seed
Production – Cotton
QC

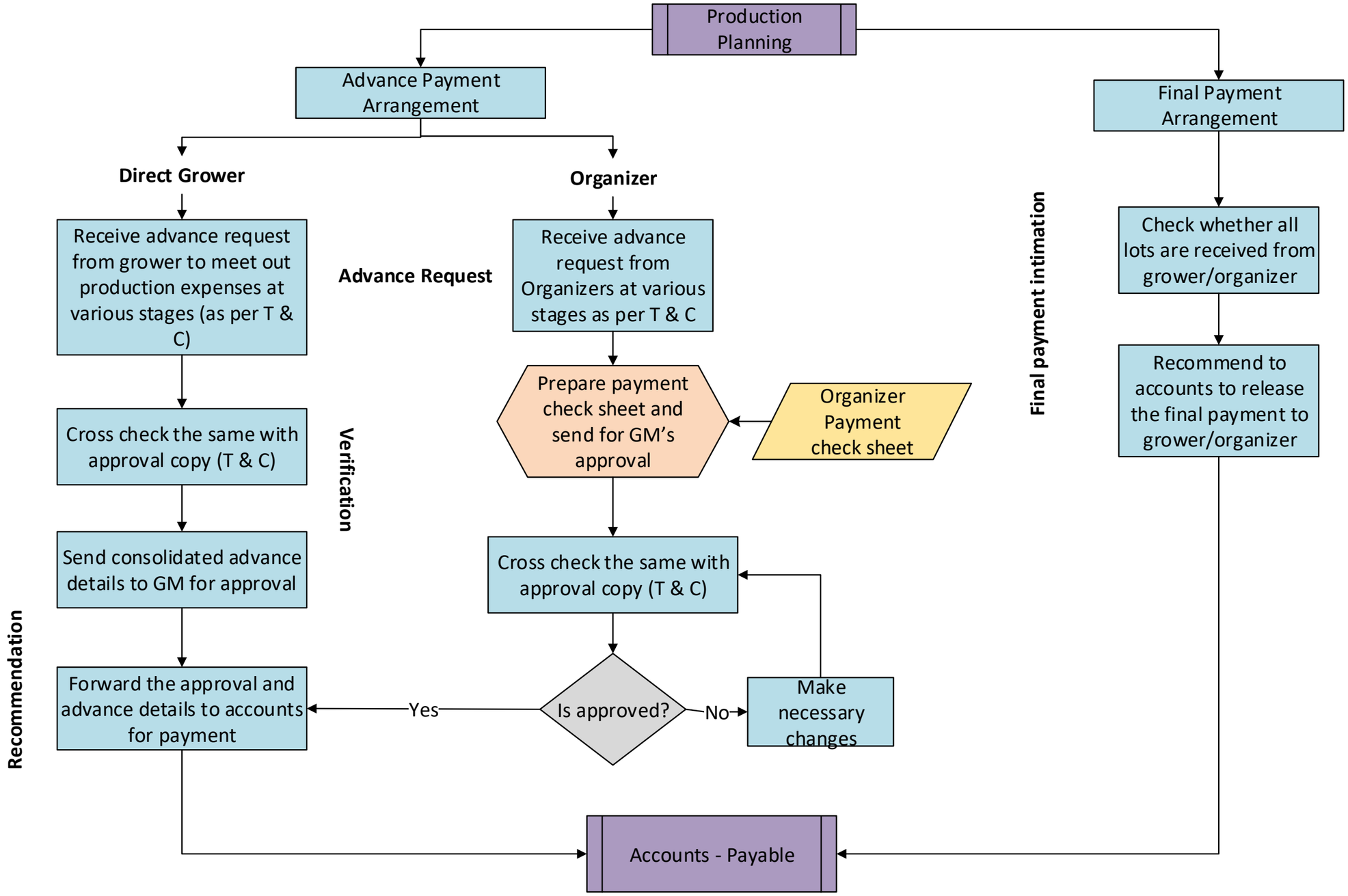
Key activities:

2. B.6.1 Unsown seeds return receipt
2. B.6.2 Unsown seeds return – Good/Fresh bags bulking
2. B.6.3 Unsown seeds return - Open and Damage bags bulking

Process	Maker	Checker	Approver
2. B.6.1 Unsown seeds return receipt			
1) Receive the unsown seeds returned from production department after the sowing season through Seeds dispatch note for field run seed	Parent Seed - Manager		
2) Verify the quantity returned with dispatch note	Unit Supervisor	Parent Seed - Manager	
3) Separate the material packing code wise male & female packets and, in that segregate, packets based on the lot no mentioned in the bags	Unit Supervisor	Parent Seed - Manager	
4) Segregate the good (Fresh), open bag and damage bags	Unit Supervisor	Parent Seed - Manager	
5) Complete the reconciliation of parent seeds with Regional Production Manager of Production department within twenty days from the end of sowing season.	Parent Seed - Manager	Dy. Manager – Accounts	
6) Check Disputes in the quantity	Parent Seed - Manager	Dy. Manager – Accounts	
7) In case of any disputes in the quantity, send the details to GM and get the approval	Parent Seed - Manager	Head – FC/Sr.GM - MFG	
8) In case of no disputes in the quantity, prepare Material inward advice	Parent Seed - Manager		
9) Prepare parent seed dispatch and return details variety-wise and location wise	Parent Seed - Manager		
2. B.6.2 Unsown seeds return – Good/Fresh Bags bulking			
1) Verify the packets once again and bulk the good seeds in the storage area separately	Unit Supervisor	Parent Seed - Manager	
2) After bulking weigh the bulked seeds	Unit Supervisor	Parent Seed - Manager	
3) Create new and separate lot number	Data entry operator	Parent Seed - Manager	

Process	Maker	Checker	Approver
4) Pack and label the returned seeds with variety, new lot no and quantity	Unit Supervisor	Parent Seed - Manager	
5) Collect the fresh GOT and Germination samples for each and every return seed lot and submit to Quality Control department	Unit Supervisor	Parent Seed - Manager	
6) Reject the lot failing germination test and keep the lots to be issued for production	Unit Supervisor	Parent Seed - Manager	
2. B.6.3 Unsown Seeds return - Open & Damaged bags bulking			
1) Store and bulk the open bag & damaged bags seed together	Unit Supervisor	Parent Seed - Manager	
2) After bulking weigh the seeds	Unit Supervisor	Parent Seed - Manager	
3) Create new and separate lot number	Data entry operator	Parent Seed - Manager	
4) Pack and label the returned seeds with variety, new lot no and quantity	Unit Supervisor	Parent Seed - Manager	
5) Collect the fresh GOT and Germination samples for each and every return seed lot and submit to Quality Control department	Unit Supervisor	Parent Seed - Manager	
6) Reject the lot failing germination test and keep the lots to be issued for production	Unit Supervisor	Parent Seed - Manager	

2. B.7 GROWER/ORGANIZER PAYMENT ARRANGEMENT – FC



Sub-process Owner:

Manager – Parent Seed

Departments Involved:

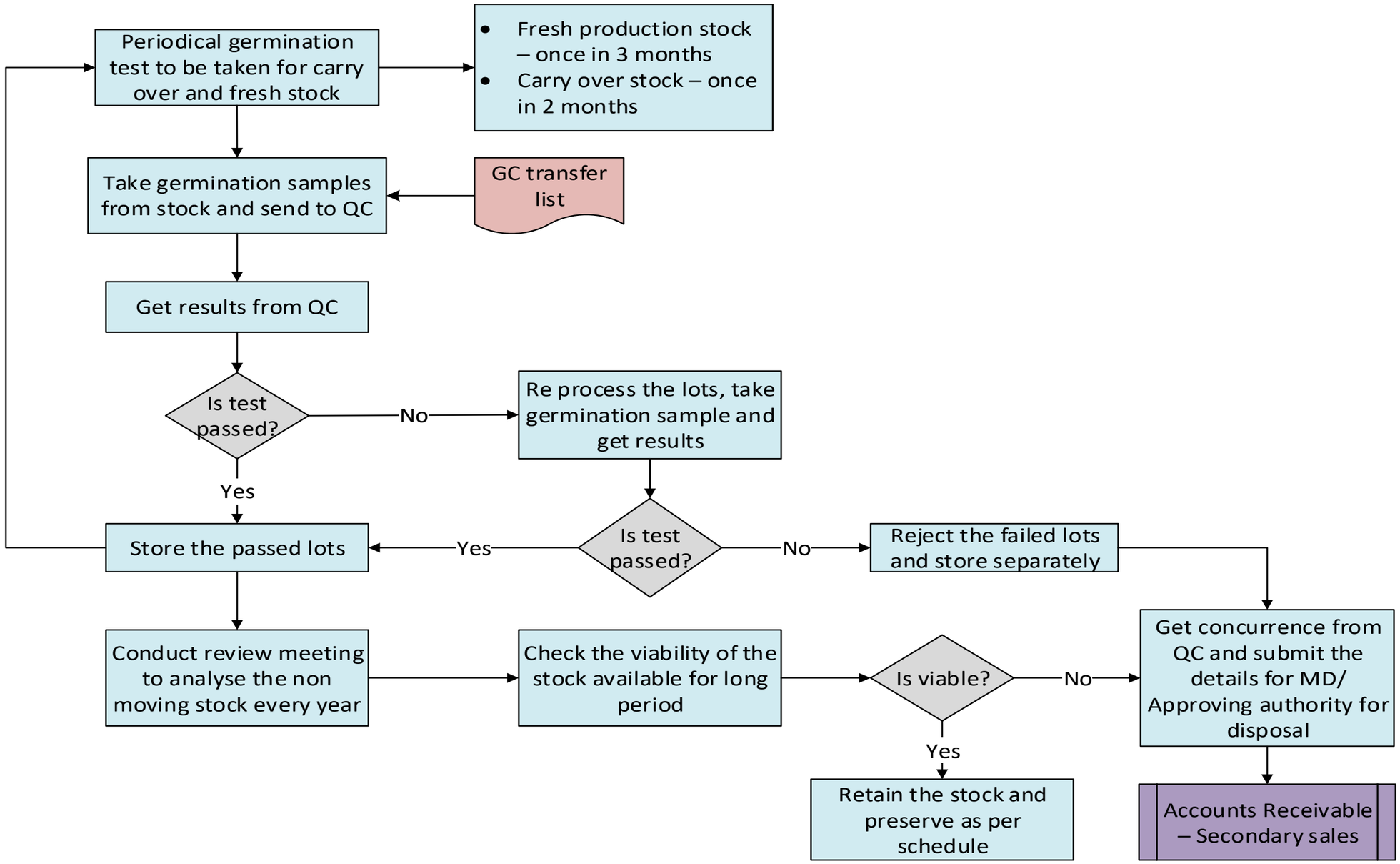
Parent Seed
Accounts

Key activities:

2. B.7.1 Advance Payment arrangement
2. B.7.2 Final Payment arrangement

Process	Maker	Checker	Approver
2. B.7.1 Advance payment arrangement			
Direct grower			
1) Receive advance request from grower to meet out production expenses at various stages as per Terms and conditions	Asst. Manager	Parent Seed – Manager	
2) Cross check the same with approved terms and condition	Asst. Manager	Parent Seed – Manager	
3) Send the consolidated advance details to Sr.GM for approval	Parent Seed – Manager	Head – FC	GM – FC
4) After approval, forward the advance details to accounts for payment	Parent Seed – Manager		
Organizer			
1) Receive advance request from organizer through production incharge to meet out production expenses at various stages as per Terms and conditions	Parent Seed – Manager		
2) Prepare payment check sheet and send for Sr.GM's approval	Parent Seed – Manager	Head – FC	GM – FC
3) If not approved, make necessary changes and resubmit the payment check sheet for approval	Parent Seed – Manager	Head – FC	GM – FC
4) If approved, forward the advance details to accounts for payment	Parent Seed – Manager		
2. B.7.2 Final payment arrangement			
5) Check whether all the lots are received from respective grower/organizer	Parent Seed – Manager		
6) Recommend to accounts to release the final payment to grower/organizer	Parent Seed – Manager	Head - FC	GM – FC

2. B.8 PARENT SEED STOCK MAINTENANCE – FC



Sub-process Owner:

Manager – Parent Seed

Departments Involved:

Parent Seed
Accounts

Key activities:

2. B.8.1 Parent Seed Stock maintenance

Process	Maker	Checker	Approver
2. B.8.1 Parent seed stock maintenance			
1) Periodical germination test to be taken for carry over stock and fresh stock • Fresh production stock – once in 3 months • Carry over stock –once in 2 months	Parent Seed – Manager	Head - FC	
2) Take germination samples from stock and send to QC	Parent Seed – Manager		
3) Check whether the QC result is pass	Parent Seed – Manager		
4) In case of failure, re-process the lots • Gravity separator	Parent Seed – Manager		
5) Take germination sample from the reprocessed lots and send it to QC	Parent Seed – Manager		
6) Check whether the QC result is pass	Parent Seed – Manager		
7) In case of failure, reject the specific lots and store separately	Parent Seed – Manager		
8) Conduct review meeting to analyze the non-moving stock every year	Parent Seed – Manager	Head – FC	
9) Check the viability of the stock available for long period	Parent Seed – Manager	Head – FC	
10) If case of not viable, get concurrence from QC and submit the details for MD/ Approving authority for disposal	Parent Seed – Manager	Head – FC/Sr.GM – MFG/QA Manager	Managing Director
11) If it is viable, then preserve the stock and re-process as per schedule	Parent Seed – Manager	Head – FC	