

Seed Business Management Tool

Manual



Tool Version 1.4
Marcel J van den Berg



**International Crops Research Institute
for the Semi-Arid Tropics**

Seed Business Management Tool Manual

Tool Version 1.4
Marcel J van den Berg



**International Crops Research Institute
for the Semi-Arid Tropics**

Patancheru 502 324, Andhra Pradesh, India

2010

Contents

Introduction.....	1
Use of the Model	1
Version.....	2
Setup	2
Seed Growing	4
Seed Processing	8
Seed Distribution	13
Operating Cost	16
Financing.....	18
Assets.....	21
Income Statement	23
Balance Sheet	25
Ratios	27

Introduction

This manual describes the Seed Business Management Tool, developed by Iowa State University (ISU) and the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

The tool (version 1.4 developed 8 May 2008) is specifically developed for (small-scale) seed companies to achieve two goals. The first is to help generate financial projections over a specific period to support the creation of a business plan. By entering all the required input data, the tool will generate an income statement and a balance sheet. The second aim is to support decision-making by enabling the user to change one or more parameters of his/her business setup. If the data is entered according to the current situation and then certain parameters – prices, quantities or capital structure – are changed, the model will calculate the outcome in terms of production, profitability and balance sheet.

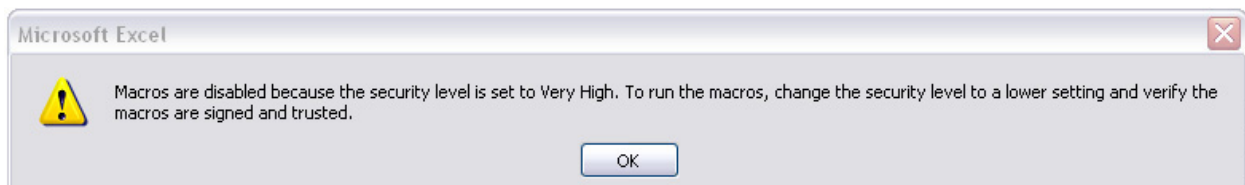
The model is built using Microsoft's Excel. There are two files of the tool available. The blank one is ready to use with your own data. The completed one is filled with data from a fictitious seed company to give you an example of the workings of the model. The tool is structured around the Seed Value Chain and starts with the growing of seed, proceeds to the processing and storage, and ends with the sale and distribution of the seed. This manual is organized in the same way as the tool, and each of the following chapters represent one section of the tool.

For more information regarding the Seed Business Management Tool, please contact Dr Moses Siambi of ICRISAT-Malawi at m.siambi@cgiar.org

Use of the Model

Startup of the tool.

When you try to open the tool your computer might give the following warning:



The tool contains so-called macros and the security settings of Excel determine whether or not your computer is able to open the file. To allow Excel to open the tool, click 'ok'. Then adjust the security settings: Go to Tools/Options. Select the 'security' tab. Press the button 'Macro Security' in the bottom. Then select 'Medium' or 'Low'. Press 'ok'. The security settings will now allow the tool to work properly.

Start using the model by completing the 'Setup' sheet. This prepares the model to make the correct calculations, using the right currency, etc. Data has to be entered per crop. The model allows data entry for five crops. The model has a specific worksheet in which to enter data for each crop for each step of the value chain. The top left cell of each worksheet indicates the crop for which data should be entered.

It is not mandatory to use all five crops. If you want to use fewer than five crops, enter in the 'Setup' sheet only the crops you want to use and enter data for only those crops' individual sheets. Three

specific sheets have to be completed for each crop. The first deals with the growing of the crop, the second with the processing and storage, and the final sheet deals with the sale and distribution.

In the sheets dealing with the growing of crops, there is a maximum of eight contract growers to work with. If you produce part of the seed, use the first column for your own production data and enter the data for the other contract growers, if applicable, in the other columns. Again, it is not mandatory to complete all the columns, but be careful to be consistent throughout the sheet and the model. The same applies to the 'distribution' sheets. There is space for seven distributors. If you do part of the distribution yourself, enter your own data in the first column, and the rest, if applicable, in the other columns.

After the crop-specific sheets, a number of sheets concerning the company as a whole have to be completed. These sheets deal with topics such as financing and operating costs.

All cells with dotted border and blue font must be filled. If a specific item is not applicable to your business or a specific cost category does not apply to your business, enter '0' or leave it blank.

Version

This sheet gives information about the version of the Seed Business Management Tool, including history, description of the version, date and authors. It is important to use the same version of the manual and the tool. Please note which version of the tool you are using. There is no input required for this page.

Setup

The basic parameters are established in this sheet. It is important to start with this one before entering data in any other sheet.

Company name

Name of the company.

Year

Year for which the data is entered and the projections are made.

Maximum capacity of own storage

In case of own storage enter capacity in tons of seed. Otherwise enter '0'.

Bad debt

Average percentage of sales that is not paid for.

Average number of days for debtors to pay

Average number of days that you allow for your customers to pay you.

Average number of days of credit from creditors

Average number of days that you have to pay your bills (inputs, electricity, rent, etc).

Currency

Currency in which your daily transactions take place.

Abbreviation

Abbreviation for the name of the currency (eg, USD for United States Dollar).

Exchange rate in US dollar

Value of 1 unit of local currency expressed in US Dollars.

	A	B	C	D	E	F	G
1	Setup of the model		All cells with dotted border are a required input				
2							
3	Enter some basic setup variables as required below. These will be used throughout the model.						
4							
5	Company						
6	Company name	Test Seed Co					
7	Year	2008					
8	Maximum Capacity of Own Storage (Tons)	45.0					tons
9	Bad Debt	1%					(average % of total sales)
10	Average number of days for debtors to pay	30					days
11	Average number of days you get credit from creditors	21					days
12							
13	Economy						
14	Currency	Kenyan Shilling					
15	Abbreviation	KES					
16	Exchange rate in US dollar	0.0153846					(value in dollars for 1 unit of local currency)
17	Applicable Tax Rate	30%					%
18							
19	Products and Business Relations						
20	Crops	Maize					crop 1
21		Rice					crop 2
22		Groundnut					crop 3
23		Cotton					crop 4
24		Sorghum					crop 5
25							
26	Contract growers	farmer 1					grower 1
27		farmer 2					grower 2
28		farmer 3					grower 3
29		farmer 4					grower 4
30		farmer 5					grower 5
31		farmer 6					grower 6
32		farmer 7					grower 7
33		farmer 8					grower 8
34							
35	Distributors	distributor 1					distributor 1
36		distributor 2					distributor 2
37		distributor 3					distributor 3
38		distributor 4					distributor 4
39		distributor 5					distributor 5
40		distributor 6					distributor 6
41		distributor 7					distributor 7
42							
43	Date Completed	April 8, 2008					
44							
45							
46							
47							
48							
49							
50							

Ready

Crops

Name of the crops you grow (max. 5).

Contract growers

Names of the contract growers you deal with (max. 8).

Distributors

Names of distributors you deal with (max. 7).

Date completed

Date of entering the data.

Seed Growing

In this section of the tool, all costs concerning the growing of seed are considered. It is not mandatory to use all eight columns for contract growers.

Foundation seed price/kg

Price to purchase 1 kg of foundation seed.

Transportation cost/km

Cost of transport expressed per km. The model makes a distinction between the use of a large truck or a small truck (pickup). Both need to be entered.

Field inspection cost/hectare

Cost per hectare for field inspection by the government.

Seed rate/hectare

The number of kilograms of seed needed to sow one hectare of land.

Trust factor

This is a subjective variable, modeling uncertainty in doing business with contract growers. It is a proxy for the trustworthiness of a contract grower. A trust factor of 1 means 100% trustworthiness and a factor of 10 only 10%. A trust factor of 1 results in delivery of the full expected yield per hectare. A trust factor of 2 results in the delivery of only 90% of the expected yield. The factor is an indication of the quality of the contract grower. The lower the quality the less seed you get.

Contract price

This is the total price you have agreed to pay the contract grower for the delivery of seed. Enter the total price and not the balance left to pay upon delivery.

Percent pre-payment

This is the percentage of the final price that you pay to a contract grower before or at the start of the season.

Hectares contracted

This is the number of hectares of land that you have contracted from a contract grower. The contract grower is supposed to deliver the harvest of those hectares to you.

Expected yield

This is the yield that is expected from the growing of seed expressed in tons per hectare.

Expected demand

This is calculated by the model and derived from the worksheet 'Seed Distribution x'.

Expected gross tons

This is calculated by the model using the expected yield and the total number of hectares contracted from all contract growers.

Anticipated tons of clean seed

This is the anticipated amount of seed available for sale. The model derives this figure using data from the next tabs to correct for storage losses, etc. This is the amount of seed expected to be left after all processing and storage is complete.

Total foundation seed cost

The model calculates this item using the number of hectares contracted, the seed rate and the price of foundation seed per kg.

Total km to deliver foundation seed

This is the distance that must be traveled in kilometers to deliver the purchased foundation seed to the contract growers. The number of kilometers must be entered per grower.

Transport type

Transport can be done using a large truck or a small truck (pickup). This depends on the amount of seed to be transported and whether the destinations for the seed are scattered or not.

Total foundation seed transport cost

This is calculated by the model using the number of kilometers and the chosen transport type.

Contract grower field visit costs

This includes the cost for (optional) visiting the field of a contract grower for inspection.

Contract grower training costs

If you incur costs related to training of farmers they can be entered here. It can be any kind of training. Enter only costs for training that are borne by you as the seed company.

Contract grower contract costs

Establishing and building relationships with your contract growers takes time and money. The costs involved in this, either to establish formal relationships using legal contracts or more informal ways of building relationships, can be entered here.

Total inspection (certification) cost

This is the cost of mandatory government field inspections. The model calculates it using the number of hectares contracted and the inspection charges per hectare as entered.

Storage location

Enter here where seed is stored after harvest but before processing. There are three options in the drop-down menu: your own storage, a rented storage, or a storage facility at the processing plant.

Km to private or rented storage

If seed is stored in a private or rented storage, enter here the number of kilometers for transportation. If seed is stored at the processing plant, enter '0'.

Km to processing plant

Enter here the number of kilometers to the processing plant. Whether the seed is stored here or not, enter the number here since the seed must be transported to the plant anyway.

Transport type

Choose here the means of transport you use to get the seed to the storage facility or to the plant.

Gross yield

This is the gross yield obtained from the harvest. It is calculated using the number of hectares contracted and the expected yield.

Paid on gross or clean

The price paid to the contract growers can be based either on the gross or clean number of tons of seed.

Cleanout rate

This is the percentage of seed that is lost in the cleaning process. This percentage is used to determine the net yield of seed.

Net yield (ton)

This is the amount of seed left after the cleaning process. This variable is determined by the cleanout rate and the gross yield.

Tons charged

This variable is dependent on payment on gross or clean (net) yield. It is the number of tons for which you have to pay the contract growers.

		A	B	C	D	E	F	G	H	I	J	K
Maize - Contract growing costs		All cells with dotted borders are a required input										
INPUT COSTS												
1	Foundation Seed Price /Kg	450.00										
2	Transportation Cost /km (large truck)	50.00										
3	Transportation Cost /km (small truck)	25.00										
4	Field Irrigation Cost /Hectare	500.0										
5	Seed Rate /Hectare	20.0										
6												
7												
8												
9	CONTRACT GROWER INPUTS											
10	Trust Factor (1-10)											
11	Contract Price /Kg	35.00	1	35.00	1	35.00	1	35.00	1	35.00	1	
12	Pre-Payment (%)	15%	1	15%	1	15%	1	15%	1	15%	1	
13	Hectares Contracted	2	2	2	2	2	2	2	2	2	2	
14	Expected Yield (ton/Hectare)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
15	Expected Demand or Tonnage Planned for Marketing	34.75										
16	Expected Grower Tonnage	40.00										
17	Anticipated Tonnage of Clean Seed	37.18										
18												
19	FOUNDATION SEED COST											
20	Total Foundation Seed Cost	18,000.00		18,000.00		18,000.00		18,000.00		18,000.00		18,000.00
21												
22	FOUNDATION SEED TRANSPORT COST											
23	Total km to Deliver Foundation Seed											
24	Transport Type											
25	Total Foundation Seed Transport Cost	45	45	45	45	45	45	45	45	45	45	
26		Small Truck	1,125.00	1,125.00	1,125.00	1,125.00	1,125.00	1,125.00	1,125.00	1,125.00	1,125.00	
27	TRANSACTION COSTS											
28	Contract Grower Field Work Cost	5,000.00		5,000.00		5,000.00		5,000.00		5,000.00		5,000.00
29	Contract Grower Training Cost	5,000.00		5,000.00		5,000.00		5,000.00		5,000.00		5,000.00
30	Contract Grower Contract Cost	2,000.00		2,000.00		2,000.00		2,000.00		2,000.00		2,000.00
31	Total Transaction Cost	12,000.00		12,000.00		12,000.00		12,000.00		12,000.00		12,000.00
32												
33	FIELD INSPECTION FOR CERTIFICATION COSTS											
34	Total Inspection (Certification) Cost	1,000.00		1,000.00		1,000.00		1,000.00		1,000.00		1,000.00
35												
36	TRANSPORT COSTS TO SEED PLANT											
37	Storage Location											
38	KM to Storage Private or Rented											
39	KM to Processing Plant											
40	Transport Type											
41	Total Transport Cost to Plant	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	6,000.00	
42												
43	GREEN SEED COST											
44	Grazing Yield	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	
45	Field Irrigation or Clean											
46	Cleanout Rate											
47	Net Yield (ton)	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	4.90	
48	Tonnage Charged	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	
49	Pre-Payment	26,250.00	26,250.00	26,250.00	26,250.00	26,250.00	26,250.00	26,250.00	26,250.00	26,250.00	26,250.00	
50	Final Payment	148,750.00	148,750.00	148,750.00	148,750.00	148,750.00	148,750.00	148,750.00	148,750.00	148,750.00	148,750.00	
51	Total Seed Cost / Grower	175,000.00	175,000.00	175,000.00	175,000.00	175,000.00	175,000.00	175,000.00	175,000.00	175,000.00	175,000.00	
52	Total Seed Cost / Tan / Grower	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00	35,000.00	
53	Total Cost / Grower	213,125.00	213,125.00	213,125.00	213,125.00	213,125.00	213,125.00	213,125.00	213,125.00	213,125.00	213,125.00	
54	Total Cost / Tan / Grower	42,625.00	42,625.00	42,625.00	42,625.00	42,625.00	42,625.00	42,625.00	42,625.00	42,625.00	42,625.00	
55	TOTAL COST (all growers)	1,705,000.00	1,705,000.00	1,705,000.00	1,705,000.00	1,705,000.00	1,705,000.00	1,705,000.00	1,705,000.00	1,705,000.00	1,705,000.00	
56	TOTAL COST / TON	42,625.00	42,625.00	42,625.00	42,625.00	42,625.00	42,625.00	42,625.00	42,625.00	42,625.00	42,625.00	
57												

Pre-payment

This variable is calculated using the pre-payment percentage, the number of tons charged and the contract price.

Final payment

This is the total amount to be paid to the contract grower minus the pre-payment.

Total seed cost per grower

This is the total cost for the seed per grower. In other words, it is the sum of the pre-payment and the final payment.

Total seed cost per ton

This is the total cost for the seed per grower per ton. It is the total seed cost per grower divided by the number of tons.

Total cost per grower

This is the total cost for the production of seed per grower, including transport costs, inspection costs, transaction costs and foundation seed cost.

Total cost per ton per grower

This is the total cost per grower divided by the number of tons.

Total cost for all growers

This is the sum of the total cost for all growers.

Total cost per ton

This is the total cost of seed for all growers divided by the total number of tons of seed.

Seed Processing

In this section of the tool, the costs related to the processing and storage of seed are examined. If the item on any line is not applicable to your company just enter '0' or leave it blank.

Gross tons from contract growers

Total number of tons received from contract growers before storage and processing (sum of the gross yields in row 44 from the 'growing' sheets).

Investment/ton before storage

Cost per ton of seed received from contract growers before storage and processing (investment per ton of seed until this stage).

Processing plant storage fee/ton/day

The seed can be stored (optional) before the actual processing. There are three options for storage – (1) at the processing plant, (2) in a rented storage, or (3) in your own storage. The storage can

be in one of these options or a combination of the three options. If no seed is stored prior to the processing, enter '0'. Enter the storage fee per day for storage at the processing plant.

Days stored

Enter the number of days the seed is stored.

Tons stored at processing plant/rental/owned storage

Enter the number of tons stored at the respective storage facility here.

Total processing plant storage cost

Total cost for storage of the indicated number of tons at the respective storage facility.

Rental storage fee/ton/day

Enter here the storage fee if seed is stored in a rented facility other than the processing plant.

Maximum capacity owned storage

This number is entered in the 'Setup' sheet. Make sure you do not put more than the actual capacity. A warning will pop up if capacity is exceeded (summed over all crops).

Total pre-processing storage cost

Total cost for all stored seed in the different storage locations.

Total pre-processing storage cost/ton

Total cost for storage per ton of seed.

Fumigation/ton

Cost of fumigation per ton of seed.

Number of fumigations required

Number of fumigations required during storage.

Total fumigation cost/ton

Total fumigation cost per ton of seed.

Pre-processing storage and maintenance cost

Total cost for storage and maintenance before processing.

Pre-processing storage and maintenance cost/ton

Total cost for storage and maintenance before processing per ton.

- **Percent loss of seed at processing plant storage**
Percentage of seed lost during storage at the processing plant.

- **Percent loss of seed at rented storage**
Percentage of seed lost during storage at the rented facility.
- **Percent loss of seed at own storage**
Percentage of seed lost during storage in your own warehouse.

Average percent loss (per ton stored)

Average percentage of seed lost during storage, using the percentages as indicated above.

Total storage loss (tons)

Total tons of seed lost during storage.

Net yield for processing

Total tons of seed left after storage, including the losses during storage.

Total pre-processing cost of storage (opportunity) loss

Total cost of loss of seed during storage. This seed has been paid for but is lost during storage.

Gross tons (after storage and maintenance)

Total amount of seed available for processing (see also 'net yield for processing').

Investment/ton before processing

Total investment made so far per ton of seed until this stage (after storage).

Discards percent (average cleanout rate)

Percentage of seed lost during the cleaning process at the processing plant.

Percent of discards that can be sold

Some of the discards can be sold (eg, animal feed). Indicate the percentage you expect to be able to sell after processing.

Discards – value to sell per ton

Market value of discarded material per ton.

Salvage value for cleanout

Total revenue from selling the discarded material (number of tons × value per ton).

Processing cost/ton

Processing cost charged by the plant per ton. In case you own the processing facility, put here your actual processing cost per ton of seed.

Treatment cost/ton

Cost to treat one ton of seed (chemicals, etc).

Certificate cost/ton

Cost to certify the processed seed, expressed per ton.

Bag cost/ton

Cost of bagging seed after processing per ton.

Label cost/ton

Cost of labeling seed after bagging.

Pallet cost/ton

Cost to store bags of seed on pallets for transport.

Total processing costs

Total cost for processing seed including bagging, labeling, etc.

Total processing costs/ton

Total processing cost divided by the number of tons of seed (after processing).

Net tons (after processing)

Tons of seed left after processing (net yield for processing minus cleanout rate).

Investment/ton of cleaned seed

Investment per ton of seed including processing.

Post-processing storage cost

See 'pre-processing storage cost' above.

Seed maintenance cost

See 'seed maintenance cost' above.

Post-processing storage loss

See 'pre-processing storage loss' above.

Net tons (after storage)

Number of tons of seed left after processing and storage (available to sell in market).

Total cost for storage and processing

Total cost for storage (pre- and post-processing) and processing.

Total cost for storage and processing/ton

Total cost for storage and processing divided by the number of tons remaining.

A		B	C	D
Maize - Storage & Processing costs		Test Seed Co		
Maize - Storage & Processing costs		Test Seed Co		
1				
2				
3	Gross Tons from contract growers (Green Yield)	40.00		
4	Investment / Ton Before Storage	42,625.00		
5				
6	PRE-PROCESSING STORAGE COST			
7	1. Processing Plant Storage Fee / Ton / Day	100.00	Kenyan Shilling	
8	Days stored	5.0	days	
9	Tons Stored at Processing Plant	16.0	tons	
10	Total Processing Plant Storage Cost	8,000.00	Kenyan Shilling	
11	2. Rental Storage Fee / Ton / Day	150.00	Kenyan Shilling	
12	Days stored	5.0	days	
13	Tons Stored in Rental	15.0	tons	
14	Total Rental Storage Cost	11,250.00	Kenyan Shilling	
15	3. Maximum Capacity Owned Storage	45.0	tons	
16	Tons Stored in Owned Storage	9.0	tons	
17	Total Pre-Processing Storage Cost	19,250.00		
18	Total Pre-Processing Storage Cost / ton	481.25		
19				
20	Seed Maintenance Cost			
21	Fumigation / Ton (Total Cost)	50.00	Kenyan Shilling	
22	Number of Fumigations Required	3		
23	Total Fumigation Costs / Ton	150.00	Kenyan Shilling	
24				
25	Total Pre-processing Storage and Maintenance Cost	25,250.00		
26	Pre-Processing Storage and Maintenance Cost / t	631.25	Kenyan Shilling	
27				
28	Pre-Processing Storage Loss			
29	1. Percent Loss for Seed at Processing plant Storage	3.0%	%	
30	2. Percent Loss for Seed at Rented Storage	2.0%	%	
31	3. Percent Loss for Seed at Owned Storage	4.0%	%	
32	Average Percent Loss (Per Ton Stored)	2.9%	%	
33	Total Storage Loss	114	tons	
34	Net Yield for Processing	38.86	tons	
35	Total Pre-Processing Cost of Storage (Opportunity) Loss	48,592.50	Kenyan Shilling	
36				
37	Gross Tons (After Storage and maintenance)	38.86	tons	
38	Investment / Ton Before Processing	44,525.22	Kenyan Shilling	
39				
40	PROCESSING COSTS			
41	Discards Percent (average cleanout rate)	2.0%	%	
42	Percent of Discards that can be Sold	70%	%	
43	Discards - value to sell per ton	250.00	Kenyan Shilling	
44	Salvage Value for Cleanout	196.01	Kenyan Shilling	
45	Processing Cost / Ton	125.00	Kenyan Shilling	
46	Treatment Cost / Ton	125.00	Kenyan Shilling	
47	Certificate Costs / Ton	125.00	Kenyan Shilling	
48	Bag Cost / Ton			125.00 Kenyan Shilling
49	Label Cost / Ton			125.00 Kenyan Shilling
50	Pallet Cost / Ton			125.00 Kenyan Shilling
51	Total Processing Costs	29,008.99		
52	Total Processing Costs / Ton	746.50	Kenyan Shilling	
53				
54	Net Tons (After Processing)	38.08	tons	
55	Investment / Ton of Cleaned Seed	46,183.74	Kenyan Shilling	
56				
57	POST-PROCESSING STORAGE COST			
58	1. Processing Plant Storage Fee / Ton / Day	100.00	Kenyan Shilling	
59	Days stored	5.0	days	
60	Tons Stored at Processing Plant	16.0	tons	
61	Total Processing Plant Storage Cost	8,000.00	Kenyan Shilling	
62	2. Rental Storage Fee / Ton / Day	150.00	Kenyan Shilling	
63	Days stored	5.0	days	
64	Tons Stored in Rental	14.1	tons	
65	Total Rental Storage Cost	10,560.00	Kenyan Shilling	
66	3. Maximum Capacity Owned Storage	45.0	tons	
67	Tons Stored in Owned Storage	8.0	tons	
68	Total Pre-Processing Storage Cost	18,860.00		
69	Total Post-Processing Storage Cost / Ton	487.39		
70				
71	Seed Maintenance Cost			
72	Fumigation / Ton (Total Cost)	50.00	Kenyan Shilling	
73	Number of Fumigations Required	3		
74	Total Fumigation Costs / Ton	450.00	Kenyan Shilling	
75				
76	Total Post-Processing Storage Maintenance Cost	35,686.00		
77	Post-Processing Storage and Maintenance Cost /	937.39	Kenyan Shilling	
78				
79	Post-Processing Storage Loss			
80	1. Percent Loss for Seed at Processing plant Storage	3.0%	%	
81	2. Percent Loss for Seed at Rented Storage	2.0%	%	
82	3. Percent Loss for Seed at Owned Storage	4.0%	%	
83	Average Percent Loss (Per Ton Stored)	2.4%	%	
84	Total Clean Seed Loss	0.90	tons	
85	Net Clean Seed for Distribution	37.18	tons	
86	Total (Opportunity) Cost of Clean Seed Storage Loss	41,966.36	Kenyan Shilling	
87				
88	Net Tons (after storage)	37.18	tons	
89	Total Cost for Storage and Processing	89,954.99	Kenyan Shilling	
90	Total Cost until Storage and Processing / Ton	2,419.45	Kenyan Shilling	
91	Total Cost until Storage and Processing	1,794,954.99	Kenyan Shilling	
92	TOTAL COST / TON OF CLEAN SEED	48,277.43	Kenyan Shilling	
93				

Total cost until storage and processing

Total cost for obtaining the seed until this stage (growing until processing).

Total cost/ton of cleaned seed

Total cost for obtaining seed divided by the number of tons available to sell.

Seed Distribution

This section of the tool examines the cost of marketing and distribution and provides the opportunity to set the selling price of the seed.

Expected net clean seed for distribution

Number of tons of seed available for distribution after storage and processing. This figure is derived from previous sheets.

Investment/ton of clean seed

Investment per ton of seed including growing, storage and processing.

Expected total tons marketed

Number of tons of seed expected to be sold in the market using the distributors. If distribution is (partly) done by yourself, use one column of distribution to enter your own costs (transport, marketing, etc).

Expected total tons not sold

Available tons of seed minus expected amount of seed to be sold. Try to keep this figure as low as possible by selling as much as possible through the distributors.

Trust factor

See also the trust factor in the 'growing' sheets. This trust factor deals with the relationship with your distributors and influences the amount of seed that is actually sold by the distributor. The higher the factor the lower the amount of seed sold. This is to model uncertainty in the market.

Expected tons marketed

Enter here the expected number of tons that the distributor will sell on your behalf.

Km to distributor

Distance in kilometers to deliver the seed to the distributor.

Transport type

Vehicle type with which to deliver the seed to the distributor. See also the 'transport type' in the 'growing' sheets.

Total transport cost

Total cost to deliver the seed to the distributor.

Landed cost per ton of seed

Total cost per ton of seed from growing until the delivery to the distributor (excluding marketing).

Landed cost at distributor

Total cost of seed until delivery to the distributor (excluding marketing).

% cost of goods sold for marketing

Budget allocated for marketing the seed as a percentage of the landed cost per ton.

Marketing/ton

Marketing budget per ton of seed.

Total marketing cost

Total marketing cost per distributor.

Landed cost including marketing/ton

Total cost per ton of seed at distributor including marketing.

Landed cost including marketing/distributor

Total cost of seed at distributor including marketing.

Total cost for transport and marketing/distributor

Total cost for transport and marketing per distributor.

Total cost for transport and marketing

Total cost for transport and marketing for all distributors.

Target sale price/ton

Selling price per ton of seed by distributor.

Final target margin

Gross profit margin on seed sold (excluding marketing cost). This is not the net margin since operating costs are not yet included.

Distributor share of selling price

Percentage of selling price the distributor gets for selling the seed.

Net tons marketed

This is the amount of seed (in tons) that the distributor actually sells. This includes the effect of the trust factor. A trust factor lower than 1 results in lower sales than expected (row 11).

Distributor earnings/ton

Total earnings for the distributor per ton of seed sold.

	A	B	C	D	E	F	G	H	I	J
1	Maize - Distribution and Marketing Costs									
2	Expected Net Clean Seed for Distribution		37.18	tons						
3	Investment / Ton of Clean Seed		48,277.43	Kenyan Shilling						
4	Expected Total Tons Marketed		36.75	tons						
5	Expected Total Tons Not Sold		0.43	tons						
6										
7										
8										
9	TONS MARKETED									
10	Trust Factor (1-10)									
11	Expected Tons Marketed (DEMAND)									
12										
13	TRANSPORT									
14	KM to Distributor		25.0		25.0		25.0		25.0	
15	Transport Type		Large Truck		Large Truck		Large Truck		Large Truck	
16	Total Transport Cost		6,562.50		6,562.50		6,562.50		6,562.50	
17	Landed Cost Per Ton of Seed		49,527.43		49,527.43		49,527.43		49,527.43	
18	Landed Cost at Distributor		260,019.03		260,019.03		260,019.03		260,019.03	
19										
20										
21	MARKETING									
22	% Cost of Goods Sold for Marketing		5%		5%		5%		5%	
23	Marketing / Ton		2,476.37		2,476.37		2,476.37		2,476.37	
24	Total Marketing Cost		13,000.95		13,000.95		13,000.95		13,000.95	
25	Landed Cost including Marketing / Ton		52,003.81		52,003.81		52,003.81		52,003.81	
26	Landed Cost including Marketing / Distributor		273,019.98		273,019.98		273,019.98		273,019.98	
27	Total Cost for Transport and Marketing / Distributor		19,563.45		19,563.45		19,563.45		19,563.45	
28										
29	Total Cost for Transport and Marketing		136,944.16							
30										
31	PRICE									
32	Target Sale Price / Ton		100,000.00		100,000.00		100,000.00		100,000.00	
33	Final Target Margin		10.2%		10.2%		10.2%		10.2%	
34	Distributor Share		10%		10%		10%		10%	
35	Net Tons Marketed		5.25		5.25		5.25		5.25	
36	Distributor Earnings / Ton		10,000.00		10,000.00		10,000.00		10,000.00	
37	Total Distributor Earnings		52,500.00		52,500.00		52,500.00		52,500.00	
38	Business Revenue / Ton / Distributor		90,000.00		90,000.00		90,000.00		90,000.00	
39	Business Revenue / Distributor		472,500.00		472,500.00		472,500.00		472,500.00	
40	Total Business Revenue		3,307,500.00							
41	Total Cost		1,840,892.49							
42	GROSS PROFIT (LOSS)		1,466,607.51							
43										
44										
45										

Total distributor earnings

Total earnings for the distributor.

Business revenue/ton/distributor

Business revenue for the seed company per ton of seed per distributor. Calculated as selling price minus distributors' share.

Business revenue/distributor

Total business revenue per distributor.

Total business revenue

Total business revenue for all seed sold by all distributors.

Total cost

Total cost of growing, processing and selling of seed.

Gross profit (loss)

Gross profit (loss) left after sale of the seed. This is the gross profit and not the company's total profit. The gross profit is to cover all other costs by the company that are not directly related to the production and selling of seed (management, interest, etc). This will be further explained in the next chapters.

Operating Cost

This section of the tool deals with those costs that are incurred in running the company but are not directly related to the (volume of) seed produced and sold.

General management (per year)

Salary for the management of the company. In most cases this is the salary of the owner.

Other management costs (per year)

Payments to others involved in the management of the company (members of the board, for example). If not applicable, just leave it blank or enter '0'.

Employee wages

In this part you can enter the number of staff members you employ including their monthly salary. The model will calculate the total cost per year per staff member.

Markup for cost on top of salary

Employees cost more than just a monthly salary. There are costs such as pension contributions, medical insurance, etc, that must be covered. Enter an average percentage to be used on top of an employee's salary to calculate your total staff costs.

Hire labor

Costs for people who work for you but are not on your payroll (ie, not employed by you) are entered here. Enter the name or type of laborer you hire, including his rate per hour and total number of hours each person works per year. The model calculates the total yearly cost per person.

Indirect expenses

In this table you may enter other costs involved in running your company such as rent, utilities, telephone bills, etc, per month. The model will calculate the cost per year. There are seven blank rows to enter other types of indirect expenses.

	A	B	C	D	E
1	Operating Cost				Test Seed Co
2					
3	MANAGEMENT COST				
4	General Management (per year)		1,000,000		
5	Other Management Cost (per year)		0		
6	Total Management Cost		1,000,000		
7					
8	EMPLOYEE WAGES				
9	Markup for cost on top of basic salary (medical, pension etc)		15%	%	
10					
11		Salary / month	Cost / month	Cost / year	
12	Agronomist	100,000.00	115,000.00	1,380,000.00	
13	Technician	80,000.00	92,000.00	1,104,000.00	
14	Secretary	65,000.00	74,750.00	897,000.00	
15	Driver	45,000.00	51,750.00	621,000.00	
16			0.00	0.00	
17			0.00	0.00	
18			0.00	0.00	
19			0.00	0.00	
20	Total Cost Employee Wages		333,500.00	4,002,000.00	
21					
22					
23	HIRE LABOR				
24		Wage / hour	Hours / year	Cost / year	
25	laborer 1	100.00	80.0	8,000.00	
26	laborer 2	75.00	140.0	10,500.00	
27	laborer 3	75.00	100.0	7,500.00	
28	laborer 4	120.00	100.0	12,000.00	
29				0.00	
30				0.00	
31				0.00	
32				0.00	
33	Total Cost Hire Labor			38,000.00	
34					
35					
36	INDIRECT EXPENSES				
37		Cost / month	Cost / year		
38	Rent (office)	20,000.00	240,000.00		
39	Utilities	2,000.00	24,000.00		
40	Stationery	2,500.00	30,000.00		
41	Telephone, fax and ICT	3,000.00	36,000.00		
42	Travel	10,000.00	120,000.00		
43			0.00		
44			0.00		
45			0.00		
46			0.00		
47			0.00		
48			0.00		
49			0.00		
50	Total Indirect Expenses	37,500.00	450,000.00		
51					

Financing

This section deals with the financial needs of the company and how they are met.

Required capital at startup

This section examines how much capital is needed to finance the production of seed. The total cost of production must be financed before the seed can be sold and any revenue will be made.

Growing seed

This is the total cost involved in growing the seed. The figure is derived from the 'growing' sheets for all crops.

Processing and storage

This is the total cost for all crops for processing and storage. The figure is derived from the 'storage and processing' sheets.

Marketing and transport

This is the total cost of marketing and transport to distribute and sell the seed. The figure is derived from the 'distribution' sheets.

Operating Cost

This is the total operating cost incurred until the first seed is sold. The model assumes that 6 months of operating cost have to be financed.

The total required capital at startup is the sum of the categories mentioned above.

Equity financing

Financing can come from two main sources: (1) risk bearing equity capital or (2) debt from banks or other sources. Equity can be provided by the owner by putting his own capital in the company or by an investor who buys a share in the company.

Own capital

Enter here your own capital that you are investing in your company.

Equity from investors

Enter here the equity capital that is provided by investors in exchange for a share in the company. If not applicable, enter '0'.

Debt financing

The funds coming from debt financing can have various sources: for example, bank loans, credit from your suppliers, an overdraft on your current bank account or informal loans borrowed from family.

Long-term liabilities

Long-term liabilities (debt) are loans with duration of 2 years or longer. Enter the details per loan including loan amount, yearly interest rate and duration. There is a maximum of four long-term loans that can be entered.

Current liabilities

Current liabilities (short-term debt) are loans or credit that must be repaid within 2 years or less. Accounts payable and overdraft on current account are predefined. There is a maximum of three other types of short-term loans that can be entered.

Accounts payable

This is credit from your suppliers on purchases (chemicals, seed bags, furniture, etc). Usually, these forms of credit have to be repaid within a few months maximum.

Current account bank (overdraft)

The bank is usually willing to provide an overdraft facility on your bank account. The amount you can withdraw in excess of your balance depends on your specific financial situation and will be decided upon by the bank. Enter to which extent you have actually used this facility (eg, you have an overdraft limit of USD 10,000, but you used only USD 3,000, then enter USD 3,000 here). Enter the applicable interest rate and the duration. If no specific duration is given by the bank enter '1'. If longer than 1 year, the bank treats it as a loan and not as an overdraft.

Finance needed

This is the summary from the upper part of this sheet and indicates the total finances needed to start your company.

Equity finance

This is the total amount of equity finance in your company.

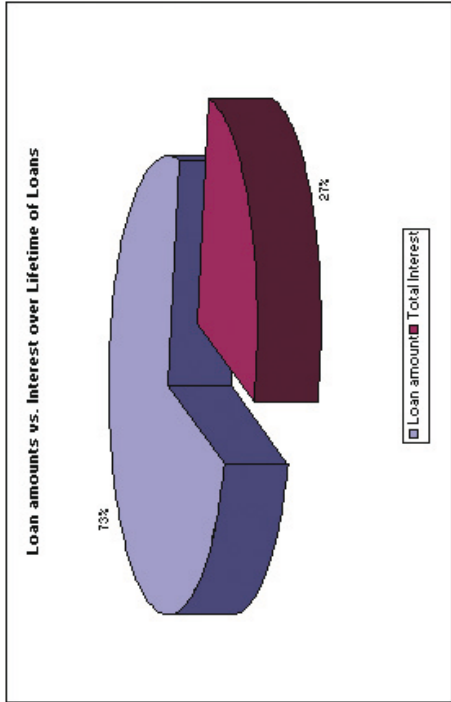
Debt finance

This is the total of debt finance in your company.

Finance need (gap)

This is the difference between the capital needed and the capital available through equity and debt finance. The best way to exactly match the capital needed and available is by adjusting the overdraft on the current bank account. If there is still a gap left, then other sources of finances have to be found before the company can start producing seed.

	A	B	C	D	E	F	G	H	I	J	
1	Financing										
2	REQUIRED CAPITAL AT STARTUP										
3	Growing Seed (contract growers)	8,525,000.00									
4	Processing and Storage	449,774.95									
5	Marketing and Transport	684,720.80									
6	Operating Cost	3,133,954.15									
7	Total	12,793,449.90									
8	EQUITY FINANCING										
9	Own capital	4,000,000.00									
10	Equity from investors	4,000,000.00									
11	Total Equity Finance	4,000,000.00									
12	DEBT FINANCING - LONG TERM LIABILITIES (>2 yr)										
13	Commercial Bank of Africa	6,000,000.00	12.0%	5	133,466.89	2,008,001.17	401,600.23				
14	Barclays Bank	1,850,000.00	10.0%	10	24,447.89	1,083,746.36	108,374.64				
15	Total Long Term Debt	7,850,000.00			157,914.57	3,091,747.53	509,974.87				
16	DEBT FINANCING - CURRENT LIABILITIES (<2 yr)										
17	Accounts Payable *	536,926.86									
18	Current account Bank (overdraft)	296,622.33	15.0%	1	23,153.33	21,316.39	21,316.39				
19	Loan from Uncle Joe	150,000.00	7.0%	2	6,715.89	11,181.28	5,690.64				
20	Total Current Liabilities	943,449.90			29,869.21	32,498.28	26,907.63				
21	FINANCING SUMMARY										
22	Finance needed	12,793,449.90									
23	Equity Finance	4,000,000.00									
24	Debt Finance	8,793,449.90									
25	Total Finance	12,793,449.90									
26	Finance Need (Gap)	-									



Assets

This section deals with the assets (capital) that are invested in the company. Assets such as land, storage facilities and vehicles are used to produce and sell the seed.

Fixed Assets

Under fixed assets, list productive items that last longer than one year such as buildings and equipment.

Description

Enter here the description of the specific asset.

Category

The category of assets is important for the model to determine where to put the assets on the balance sheet. Choose from the pull-down menu.

Purchase value

This is the original value of the asset at the time of purchase.

Year of purchase

The year in which an asset is purchased. This is to determine the value of the asset to put it on the balance sheet.

Depreciation period

Each of the various fixed assets has its own specific depreciation period. Enter here the economic lifetime of the asset. This is the period when it is economical to keep using the asset. For example, a vehicle is not completely worthless after 4 or 5 years, but most companies depreciate them over 4 or 5 years and then sell it and buy another one to keep maintenance costs low.

Rest value

This is the value for which you can sell your asset after its economic lifetime, for example, the value of a vehicle after 4 years.

Yearly depreciation

Based on the purchase value, lifetime and rest value – as entered above – the model calculates the yearly depreciation.

Current book value

This is the current value of an asset based on the purchase value minus the accumulated depreciation.

Yearly maintenance

This is the yearly cost for maintenance of an asset.

Assets		A	B	C	D	E	F	G	H	I	J	
1		Test Seed Co										
2												
3	FIXED ASSETS											
4	Description	Category	Purchase Value	Year of Purchase	Depreciation Period (yrs)	Rest Value	Yearly Depreciation	Current Bookvalue	Yearly Maintenance	Maint. % of Purchase		
5	Buildings	Land & Buildings	1,750,000.00	2000	15	500,000.00	76,666.67	883,333.33	35,000.00	2%		
6	Land	Land & Buildings	500,000.00	1980	100	500,000.00	-	500,000.00	5,000.00	1%		
7	Storage Facility	Storage Facility & Equipment	2,000,000.00	2007	15	100,000.00	126,666.67	1,620,000.00	100,000.00	5%		
8	Equipment	Storage Facility & Equipment	50,000.00	2003	8	-	6,250.00	6,250.00	5,000.00	10%		
9	Pickup	Vehicles	80,000.00	2006	4	15,000.00	16,250.00	15,000.00	8,000.00	10%		
10	Truck	Vehicles	45,000.00	2005	4	15,000.00	7,500.00	-	4,500.00	10%		
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21	Total Fixed Assets		4,425,000.00				233,333.33	3,124,583.33	157,500.00			
22												
23	CURRENT ASSETS											
24	Accounts Receivable *		1,378,125.00									
25	Cash at Bank		650,000.00									
26	Cash at hand		53,000.00									
27												
28												
29												
30	Total Current Assets (excl. inventory)		2,081,125.00									
31												
32	INVENTORY											
33	Maize		15.43	Average inventory level	5	Value	747,897.91					
34	Rice		15.43		5		747,897.91					
35	Groundnut		15.43		5		747,897.91					
36	Cotton		15.43		5		747,897.91					
37	Sorghum		15.43		5		747,897.91					
38	Total Inventory						3,739,489.56					
39												
40	INCOME FROM ASSETS											
41	Sale of Assets		20,000.00									
42	Rent from own Storage Facility		36,000.00									
43												
44												
45												
46												
47												
48												
49												
50												
51												
52												
53												
54												
55												

Maint. % of purchase value

Enter here an estimate of the maintenance cost expressed as a percentage of the purchase value. For example, 10% of the price of a vehicle is needed yearly for maintenance.

CURRENT ASSETS

This category contains assets that last shorter than one year or can be sold or cashed in a short period of time. Examples are: stocks, money in bank accounts and accounts receivable.

Accounts receivable

This is money that your customers owe you. The model calculates this amount based on the average amount of credit you give your customers (days for debtors to pay) as entered in the 'Setup' sheet.

Cash at bank

This is money you have in your bank accounts.

Cash at hand

This is money you have disposable in cash.

Inventory

The inventory is put on the balance sheet for the average amount it is worth during the year. This can be determined by estimating how long the seed is in your inventory on average. Enter the number of months you have the seed in your inventory. The model calculates the number of tons and its value based on the production costs and the time present in your inventory.

Income from assets

Enter here the income that is generated by your assets. This can be either from the sale of assets or rental income. Examples include a vehicle that has been disposed this year or (part of) your storage facility that is rented out to a third party.

Income Statement

The income statement presents an overview of total income and expenses for all crops. The total net profit available for the company is presented here.

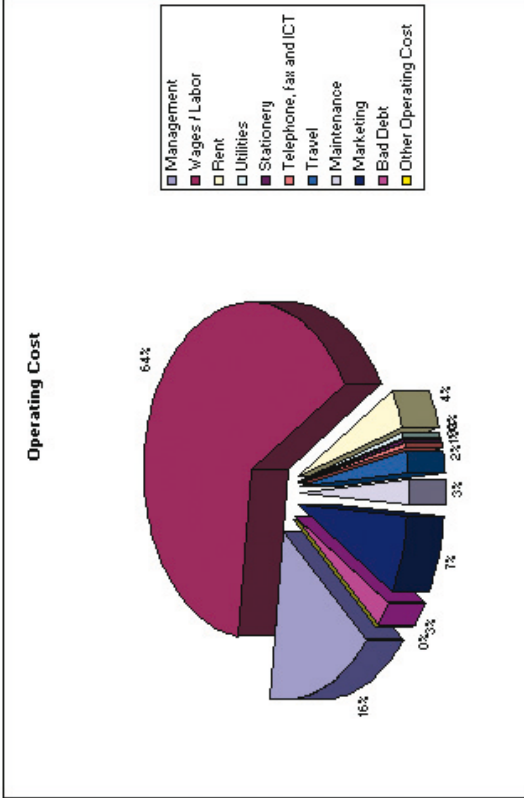
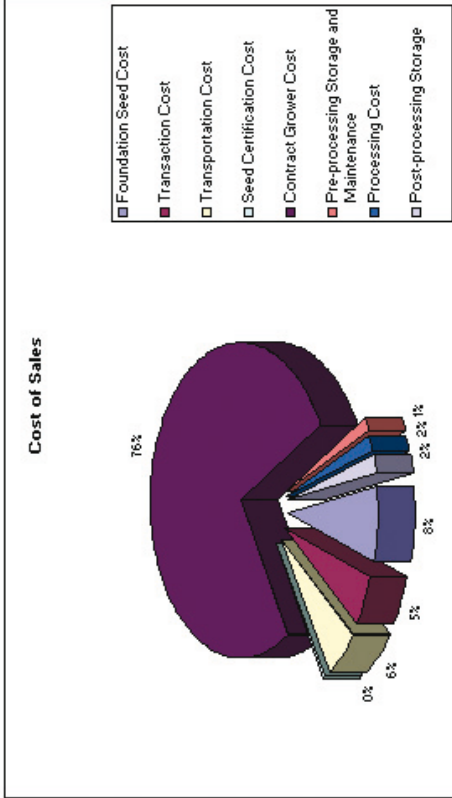
TOTAL SALES

This is the value of the sales of all crops. This is calculated as the number of tons sold multiplied by the selling price per ton minus the distributors' share.

TOTAL COST OF SALES

This is the total cost of the seed directly related to the production (growing, processing, etc).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
		8-Apr-08 Test Seed Co														
		Income Statement														
1			Kenyan Shilling	US Dollar												
2																
3																
4																
5			3,307,500	50,885												
6			3,307,500	50,885												
7			3,307,500	50,885												
8			3,307,500	50,885												
9			3,307,500	50,885												
10			16,537,500	254,423												
11																
12			720,000	11,077												
13			480,000	7,385												
14			514,688	7,318												
15			40,000	615												
16			7,000,000	107,692												
17			126,250	1,942												
18			145,045	2,231												
19			178,480	2,746												
20			9,204,462	141,607												
21																
22			7,333,038	112,816												
23																
24			1,000,000	15,385												
25			4,040,000	62,154												
26			240,000	3,692												
27			24,000	369												
28			30,000	462												
29			36,000	554												
30			120,000	1,846												
31			157,500	2,423												
32			485,033	7,001												
33			165,375	2,544												
34			0	0												
35			6,267,308	96,429												
36																
37			1,065,129	16,387												
38																
39			233,333	3,590												
40			536,883	8,260												
41			294,913	4,537												
42																
43			20,000	308												
44			36,000	554												
45			56,000	862												
46																
47			350,913	5,399												
48																
49			105,274	1,620												
50																
51			245,639	3,779												
52																
53																
54																
55																
56																
57																
58																
59																
60																
61																
62																
63																



GROSS PROFIT

This is the gross profit margin taking into account the cost of sales. The costs of sales, however, do not include all the costs of the company in a given period.

TOTAL OPERATING COST

This is the total of the costs not directly related to the actual production of seed. These are entered in the sheet 'Operating cost'.

NET OPERATING PROFIT (LOSS) (before interest and tax)

This is the profit after deduction of the cost of sales and operating cost excluding the cost for depreciation and interest. This is sometimes referred to as EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization).

NET PROFIT (LOSS) (before tax)

This is the net operating result of the company after deduction of depreciation and interest.

TOTAL OTHER INCOME

This is income not related to the production of seed (sale of a vehicle, for example).

TOTAL PROFIT (LOSS) (before tax)

This is the total profit of the company from seed production and other income together. Taxes are not yet taken into account.

TOTAL NET PROFIT (LOSS) (after tax)

This is the total net profit that is available to the company after deduction of taxes. If the applicable tax rate (entered in 'Setup' sheet) is 0%, this amount is the same as the total profit before tax.

The graphs represent an overview of the breakdown of the cost of sales and the operating cost.

To improve your understanding of the income statement, it might be interesting to lower or raise your prices in the 'Distribution' sheets to see what happens to the income statement.

Balance Sheet

The balance sheet provides an overview of the assets, liabilities and equity of the company. The value of the assets¹ and liabilities are entered in the 'Assets' and 'Financing' sheets. Equity is considered as the part of the company owned by the owner(s). The equity of the company is derived using the formula:

$$\text{EQUITY} = \text{ASSETS} \text{ minus } \text{LIABILITIES}$$

In other words, equity is the difference between the value of the company's assets and the value of the loans and other debts and payables to finance those assets. It is the balance between what the company 'owns' and 'owes'.

For further explanation see the various line items in the chapters on 'Assets' and 'Financing'.

¹ The model values assets at book value, which is purchase value minus accumulated depreciation.

	A	B	C	D
1	Balance Sheet	8-Apr-08		Test Seed Co
2				
3	ASSETS	Kenyan Shilling		US Dollar
4				
5	Fixed Assets			
6	Land and Buildings	1,483,333		22,821
7	Storage Facility and Equipment	1,626,250		25,019
8	Vehicles	15,000		231
9	Other Fixed Assets	0		0
10	Total Fixed Assets	3,124,583		48,071
11				
12	Current Assets			
13	Accounts Receivable	1,378,125		21,202
14	Inventory	3,739,490		57,531
15	Cash at Bank	650,000		10,000
16	Cash at Hand	53,000		815
17	Other Current Assets	0		0
18	Total Current Assets	5,820,615		89,548
19				
20	TOTAL ASSETS	8,945,198		137,618
21				
22	LIABILITIES			
23				
24	Long-term Liabilities			
25	Loans	7,850,000		120,769
26	Total Long-term Liabilities	7,850,000		120,769
27				
28	Current Liabilities			
29	Accounts Payable	536,927		8,260
30	Overdraft Bank Account	256,523		3,947
31	Other Current Liabilities	150,000		2,308
32	Total Current Liabilities	943,450		14,515
33				
34	TOTAL LIABILITIES	8,793,450		135,284
35				
36	EQUITY	151,748		2,335
37				
38	Check (zero)	-		-
39				

Ratios

Ratio analysis involves the comparison of two or more figures in the financial statements (balance sheet, income statement) to provide an indicator of the performance of the business. The calculation of business ratios is straightforward, but the value of them lies in their interpretation. The calculated ratios must be assessed in the context of the industry, sector and market in which the business operates – in this case the seed business sector in Africa. Furthermore, similar things must be compared. For example, comparing a start-up with a business that has been operating successfully for over 10 years will also be of limited value.

The formulas to calculate the ratios are provided in the sheet behind the specific ratios. There is no input required in this sheet; the model makes the calculations based on the financial statements.

Profitability

The ratios on profitability are derived from the income statement and are all expressed as a percentage. For a profitable business these ratios must be positive.

Gross profit margin

A business must make a sufficient gross margin to cover its operating cost if it is to make a profit at the operating level. Gross margins vary dramatically from industry to industry. In the software and publishing industries, for example, gross profit margins can be very high, possibly in excess of 90%. For a seed company, the gross profit margin depends on several factors (price setting, brand, competition), but will generally be somewhere between 20 and 50% since the cost of producing the seed is considerable.

Operating profit margin

The operating profit margin measures overall profitability after taking into account all operating costs. The business must be profitable at the operating level to be able to cover depreciation costs as well as interest expenses.

Liquidity and the balance sheet

The following ratios give insight on the liquidity position of the company, the relation between equity and liabilities, and the speed of turnover.

Current ratio

This ratio measures liquidity and indicates how many times the current assets (which can be readily converted into cash) are available to cover the current liabilities (short-term debt). This gives an indication of whether or not the company will be able to service its short-term debt.

Quick ratio

This ratio indicates how many times the assets that are already in cash or 'nearly' in cash are available to cover the current liabilities. It also gives an indication of whether the company can service its short-term debt, but is a stronger test than the current ratio.

Owners' equity ratio

This ratio indicates the percentage of the company actually owned by the owner(s). It expresses the value of the equity divided by the total of the liabilities + equity (or equity divided by total assets, see formula on page 25).

Debt ratio

This ratio indicates the percentage of the company that is financed with debt. It is the inverse of the owners' equity ratio. The sum of the debt ratio and the owners' equity ratio is always 100%.

Debt service ratio

This ratio indicates to which extent the operating profit of the company is sufficient to cover the interest expenses. This is an important indicator for banks to assess the ability of a company to pay its interest expenses. A ratio of '2' means the operating profit is enough to cover two times the interest expense. This ratio is also referred to as 'interest cover'.

Inventory turnover

This ratio produces the number of times you sold the worth of your inventory. The example 2.5 on the next page indicates that the value of your sales is 2.5 times the value of your inventory. The higher this ratio the quicker you sell your products and the shorter they have to be kept in stock. For seed businesses this figure can be rather low, because seed is actually sold only during one or two periods a year. The average time the seed is stocked is relatively long.

Returns

The following ratios measure how efficiently the capital and assets of the company are used. To assess capital efficiency, figures from the income statement and balance sheet must be combined to calculate the various rates of return.

Return on sales

This ratio indicates the value of the net operating profit as a percentage of total sales. This indicates how much your profit is per dollar of sales. The difference between this ratio and the operating profit margin is that this ratio also takes depreciation and interest into account.

Return on assets

This ratio examines how efficiently the company is using its assets (capital base). In other words, this ratio indicates how much profit you make with each dollar invested in the company.

Return on equity

This ratio examines the return that the owner(s) of the company get for their capital invested in the company. This is an important ratio for the owner(s) since it indicates whether it is profitable enough to continue with the business or whether it would be more efficient to invest their capital somewhere else.

	A	B	C	D
1	Ratios	2008	Test Seed Co	
2				
3	Profitability	Ratio	Calculation	
4	Gross Profit Margin	44.3%	Gross Profit / Total Sales	
5	Operating Profit Margin	6.4%	Operating Profit / Total Sales	
6				
7	Liquidity and the Balance Sheet			
8	Current Ratio	6.2	Current Assets / Current Liabilities	
9	Quick Ratio	2.2	Cash+ Receivables / Current Liabilities	
10	Owner's Equity Ratio	1.7%	Owner's Equity / Equity + Total Liabilities	
11	Debt Ratio	98.3%	Total Debt / Total Assets	
12	Debt Service Ratio (Interest Cover)	2.0	Operating Profit / Interest Expense	
13	Inventory Turnover	2.5	Cost of Sales / Average Inventory	
14				
15	Returns			
16	Return on Sales	1.8%	Net Operating Profit / Sales	
17	Return on Assets	3.3%	Net Operating Profit / Total Assets	
18	Return on Equity	194.3%	Net Operating Profit / Total Equity	
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				
32				
33				
34				

About ICRISAT



The International Crops Research Institute for the Semi-Arid-Tropics (ICRISAT) is a non-profit, non-political organization that conducts agricultural research for development in Asia and sub-Saharan Africa with a wide array of partners throughout the world. Covering 6.5 million square kilometers of land in 55 countries, the semi-arid tropics have over 2 billion people, and 644 million of these are the poorest of the poor. ICRISAT and its partners help empower these poor people to overcome poverty, hunger and a degraded environment through better agriculture.

ICRISAT is headquartered in Hyderabad, Andhra Pradesh, India, with two regional hubs and four country offices in sub-Saharan Africa. It belongs to the Consortium of Centers supported by the Consultative Group on International Agricultural Research (CGIAR).

Contact Information

ICRISAT-Patancheru
(Headquarters)
Patancheru 502 324
Andhra Pradesh, India
Tel +91 40 30713071
Fax +91 40 30713074
icrisat@cgiar.org

ICRISAT-Liaison Office
CG Centers Block
NASC Complex
Dev Prakash Shastri Marg
New Delhi 110 012, India
Tel +91 11 32472306 to 08
Fax +91 11 25841294

ICRISAT-Nairobi
(Regional hub ESA)
PO Box 39063, Nairobi, Kenya
Tel +254 20 7224550
Fax +254 20 7224001
icrisat-nairobi@cgiar.org

ICRISAT-Niamey
(Regional hub WCA)
BP 12404, Niamey, Niger (Via Paris)
Tel +227 20722529, 20722725
Fax +227 20734329
icrisatnc@cgiar.org

ICRISAT-Bamako
BP 320
Bamako, Mali
Tel +223 20 223375
Fax +223 20 228683
icrisat-w-mali@cgiar.org

ICRISAT-Bulawayo
Matopos Research Station
PO Box 776
Bulawayo, Zimbabwe
Tel +263 83 8311 to 15
Fax +263 83 8253, 8307
icrisatzw@cgiar.org

ICRISAT-Lilongwe
Chitedze Agricultural Research Station
PO Box 1096
Lilongwe, Malawi
Tel +265 1 707297, 071, 067, 057
Fax +265 1 707298
icrisat-malawi@cgiar.org

ICRISAT-Maputo
c/o IIAM, Av. das FPLM No 2698
Caixa Postal 1906
Maputo, Mozambique
Tel +258 21 461657
Fax +258 21 461581
icrisatmoz@panintra.com

www.icrisat.org