

R 2317 (C)

Assessment of losses in contingency stocks of maize supplied to WFP for use in refugee feeding programmes in East Africa, and recommendations on improvements to reduce commodity losses during transport and storage in Tanzania, Burundi, Zaire and Rwanda

9 - 24 March 1996

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Project C0854

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ACKNOWLEDGEMENTS

I should like to express my special thanks to the WFP Country Directors in Tanzania, Burundi and Rwanda for providing every assistance during this mission, and to the many other staff who provided information or accompanied me on commodity inspection visits. Recognition must also be given to other staff, too numerous to mention, who also played a valuable part in the success of this mission.

TERMS OF REFERENCE

Through field visits to Tanzania (Dar es Salaam, Isaka, Ngara, Kigoma); Burundi (Bujumbura, Ngozi); Zaire (Uvira) and Rwanda (Kigali and elsewhere):

- inspect sample and analyse quantities received at final destinations or still in transit from the older contingency stock of maize;
- inspect sample and analyse the newer contingency maize stock, including those quantities at final destinations or in-transit in Tanzania and Rwanda, plus the balance in storage in Dar es Salaam;
- quantify deteriorated and/or unfit commodities;
- provide a detailed report to WFP including recommendations on:
 - i) the segregation of/or disposal of quantities deteriorated and/or unfit;
 - ii) the use of remaining quantities from both the old and newer contingency stocks (i.e. fumigation, accelerated utilisation, milling, storage);
 - iii) optimal future storage conditions/locations for the WFP contingency stock.
- liaise with local inspectors, e.g. Baltic Control in Kigali, to establish a realistic appraisal of foodstuffs and formulate a functional standard approach;
- assist local WFP staff to recognise signs of increasing deterioration in order to minimise spoiling.

SUMMARY OF PRINCIPAL FINDINGS AND RECOMMENDATIONS

1. In October 1995 it was agreed that maize, that had arrived in Tanzania on the vessel Promina for drought relief purposes in late June 1995, could be re-directed for refugee-feeding programmes. During the intervening period a portion of the maize underwent spoilage whilst stored in the donor's woven plastic bags in Dar es Salaam. The spoilage was principally the result of internal 'stackburn' that causes browning of the grain because of heating. Storage of maize, in woven plastic bags through which air cannot easily circulate, is considered to be a major contributory cause of stackburn. Although there is, currently, no evidence that stackburned maize is harmful to consumers, the badly discoloured maize from the Promina shipment was downgraded as unfit for human consumption and condemned to be destroyed.
2. Because stackburn damage occurs in the interior of bag stacks, it was not detected in the accessible outer layers; and only revealed during dismantling of stacks. Without previous experience of stackburn, WFP staff in Dar es Salaam were not well placed to expect this type of spoilage and it is therefore difficult to apportion blame for stackburn damage to maize, either to WFP staff, or to others contracted to store the grain.
3. When the maize from the Promina was despatched to inland locations in Tanzania and Rwanda, mixing took place of bags containing stackburned and undamaged maize, and to salvage undamaged maize at these locations, it became necessary to separate bags for distribution by individual sorting. In Tanzania, the total quantity of maize spoiled due to stackburn is reported to be 3397 MT. In Rwanda, separation of 55 MT of stackburned maize had taken place by mid-March 1996. Because sorting of remaining stocks was continuing it was not possible at the time of the visit to provide an accurate estimate of the overall total quantity of maize from the Promina damaged by stackburn. It is, however, thought likely to be less than 4000 MT.
4. WFP should ensure through future management of maize stocks, that problems of stackburn do not re-occur. It must be noted that stackburn can occur at inland locations, if the temperature is sufficiently high, and is not solely a problem at coastal locations. The management of future contingency stocks should avoid the potential for stackburn by minimising storage periods under hot conditions for longer than two months or, if this is not practicable, and large stacks have to be constructed, these should incorporate ventilation channels to dissipate accumulated heat. It is worth noting that stackburn is not a problem commonly associated with maize stored in jute bags.
5. Of the 20,000 MT of maize arriving on the vessel Ourios, and designated as a second contingency stock, none was reported (or seen during visits) to have been damaged by stackburn in any of the countries visited. By mid-March 1996, only 2,500 MT of this shipment remained in Dar es Salaam, being stored in bulk silos and in good condition. This maize can be expected to remain in reasonably good condition because of the method of storage. It will not be affected by stackburn, or damaged by insect pests from cross infestation. However, since it is old stock, it would be wise to consider distributing it as soon as possible rather than using newer stocks first.
6. As a result of problems with high moisture levels and insect infestation in maize imported into Rwanda from Uganda, it is recommended that WFP appoints agents to inspect maize in Uganda prior to its despatch. This should help to prevent maize of sub-standard quality being received in Rwanda.
7. Maize currently supplied by WFP in Rwanda (where it is not a popular food staple) is mostly through food-for-work programmes, and beneficiaries regard the maize in cash terms, rather than as food. They do not expect a good selling price for yellow maize unless the quality is very high, and are therefore, dissatisfied when much of the grain received is in poor condition because of breakage. The difference in quality acceptance of maize supplied by WFP in Rwanda, and that for refugees in bordering countries needs to be recognised. Refugees, generally, have little choice regarding the quality of food donated, and likely to be consumed, and are less likely to reject yellow maize containing broken grains and dust.

8. At locations visited during the mission commodity management by WFP personnel, and their agents, was usually well conducted, often under difficult climatic conditions (particularly rain), and often in remote areas, sometimes both factors applying.

9. Wetting of stocks by rain was noted to be a constant threat during the rainy season, and spillage from bags, particularly at port locations also results in grain losses, although these are usually relatively small. Spillage was usually caused accidentally, from bags torn during handling, but wetting was sometimes due to disturbance of protective tarpaulins during the theft of maize from rail wagons. In some instances (at Kigoma) the favouring of commercial shipments, in preference to those of WFP for protection from rain, has also caused spoilage by wetting.

10. The magnitude of insect infestation noted in WFP commodities was usually not excessive, except in condemned stocks awaiting destruction. If these stocks cannot be disposed of quickly (within two weeks), and become infested, they should be fumigated promptly. The expense incurred is well justified by removing the risk of cross infesting other stocks, which would otherwise also need disinfection in due course.

11. The nearer that maize (or other commodity) is transported towards its final destination, the less likely it may be that ready facilities will be available for fumigation. It should, therefore, be considered a best practice principle to ensure effective pest control procedures as early as possible in the transportation pipeline. This practice will have the added advantage of reducing commodity damages levels due to insects.

12. Throughout the mission poor quality fumigation practices were evident and it is essential for WFP to review its policy on fumigation, which is a costly operation, particularly when private contractors are used (US\$2.5/MT in Rwanda). WFP staff, if properly trained and equipped, could be expected to conduct fumigation more cost-effectively than commercial contractors since profit motives would not be involved. A limited amount of fumigation is already being conducted by WFP staff in Burundi and in Rwanda. Fumigation costs might be further reduced by using phosphine fumigants obtained from alternative manufacturers to the one presently used.

13. Rodents were reported to be a problem in some locations, particularly in temporary stores (Rubb Halls). It is recommended that WFP makes suitable rodenticides available to those requiring them, together with training in their safe and effective use. The rodenticides to be employed should be ready-to-use-anticoagulants such as Klerat (brodifacoum).

14. The larger grain borer - LGB (*Prostephanus truncatus*) is a serious pest of stored maize and cassava and is now well established in several countries in East Africa (particularly Tanzania and Kenya). Maize purchased locally from either of these countries is likely to present the most serious threat of infestation to WFP commodities, by LGB. The risk of cross contamination of WFP cargoes from vehicles previously used to carry local maize should not, however, be ignored. It is recommended that WFP takes all measures possible to prevent spread of the pest during the transport of food aid in the region.

BACKGROUND

15. Following the war and genocide in Rwanda in 1994, which resulted in large numbers of Rwandans fleeing to neighbouring countries, WFP established a pipeline project to feed the refugees. Commodities involved are principally maize, pulses, and edible oil, but also include blended foods and milk powder. Most of the commodities are provided by overseas donors, particularly the USA, but maize and pulses are sometimes purchased in East Africa. The main ports of importation are Dar es Salaam and Mombasa, which supply camps operated by UNHCR in Tanzania, Zaire, and Burundi. In Rwanda, WFP operates food-for-work programmes to assist in the resettlement of returning refugees or displaced persons. Transit camps in Rwanda for returning refugees are also supplied with food by WFP. Commodities are transported from Dar es Salaam by rail and by road, although water transport (barge) is also employed to move commodities from the railhead at Kigoma on Lake Tanzania, to Uvira in Zaire.

16. An inland cargo centre for WFP commodities is being developed at the railhead location of Isaka, in Northwest Tanzania, and this will supply the extended delivery points (EDP) close to refugee camps near the Rwanda border, and in Burundi. The establishment of the Isaka cargo centre should reduce the pressure on storage accommodation in Dar es Salaam, and lessen the effect of the food pipeline project on normal commercial operations in the port. Additionally, the climate at Isaka is less extreme than at the coast, with lower average humidities, and therefore more suitable for commodity storage.

17. Because of the high political profile and expense of the pipeline project, food donors are concerned to see that commodities are stored and transported by WFP, and their agents, with minimal losses. There have been recent reports, by visiting US delegations, of high levels of commodity losses in the pipeline and, in addition, that part of a shipment of US maize arriving in Dar es Salaam on the vessel Promina had undergone serious spoilage. As a consequence, WFP sought an independent assessment of commodity storage operations in East Africa from the Natural Resources Institute.

PROGRAMME OF ACTIVITIES AND ASSESSMENTS

Full details of the travel itinerary are given in Appendix 1.

First contingency stock - ex vessel Promina

18. A shipment of 15,000 MT of yellow maize from the USA, destined for drought relief operations, arrived in Dar es Salaam on the vessel Promina in June 1995. Because the maize was no longer required for drought relief, request were made to divert the shipment for refugee feeding programmes and this was finally agreed in October 1995, when the grain became the first WFP contingency stock. Despatch of the maize, which by this time had been stored in the donor's woven plastic bags, in Dar es Salaam, for more than four months, commenced in early November 1995. During dismantling of stacks and despatch of the grain it was discovered that part of the cargo had undergone deterioration during storage.

19. Examination of maize samples remaining in Dar es Salaam, in March 1996, showed that the damage was principally the result of stackburn, which causes browning of the grain. This has resulted in downgrading of the maize as unfit for human consumption and its destruction ordered. Stackburn has only recently come to prominence and is caused by the generation of heat with maize stacks, the heat arising potentially, from several possible sources including climate, insect infestation, or microbial activity. The use of woven plastic bags for maize storage, through which warm air cannot easily circulate, is considered to be a major contributing factor to stackburn. It does not commonly occur with maize stored in jute bags, possibly because air can more easily circulate through these and, in consequence, there is less chance for the heat accumulation that leads to stackburn. There appear to have been no previous reports of stackburn damage to WFP maize consignments in Tanzania.

20. Because stackburn damage occurs in the interior of bag stacks, it is not detectable in the accessible outer layers, and is only revealed during stack dismantling. Because WFP staff had no previous experience of stackburn damage, they were not in a position to recognise that it might take place in the maize from the Promina cargo, despite its extended period of storage in Dar es Salaam. There is little or no published information on stackburn, or its prevention, and it is, therefore, difficult to apportion blame for damage that occurred to the maize, either to WFP staff, or to others contracted to store the grain.

21. Maize from the Promina was distributed to inland locations in Tanzania and Rwanda, and mixing of bags containing stackburned and undamaged maize took place during despatch from Dar es Salaam. Stacks containing mixed maize were inspected at Isaka and Ngara in Tanzania, and at Kigali and other locations in Rwanda, including Giterama, Gikongoro, Rwamangara, Kibungo (transit camp) and Nyagatare. Sorting of the maize on a bag by bag basis was necessary on final despatch from stores at these locations in order to salvage the maize not damaged by stackburn. A letter from the Tanzanian Ministry of Health, dated 15 December 1995, indicates that, analysis of

maize from the Promina shipment, that was not damaged by stackburn, showed the maize to be in an acceptable condition. A copy of the letter appears in Appendix 1.

22. The quantities of maize reported to have been condemned in Tanzania because of stackburn were:

Dar es Salaam	2000 MT
Ngara	1361 MT
Karagwe	36 MT
Total	3397 MT

23. A total of 2,600 MT of maize from the Promina shipment was received in Rwanda. By mid-March 1996, a total of 55 MT of stackburned maize had been separated from stocks held in Kigali. Further amounts, as yet unquantified, can be expected to be separated from the 400 MT of maize from the Promina remaining in Kigali. Additional, but relatively small quantities of stackburned maize will be separated during despatch of Promina stocks from other locations in Rwanda. At Kibungo, a transit camp for returning refugees in Southeast Rwanda, 3.75 MT of stackburned maize had been returned as unacceptable for food by refugees.

24. It was not possible, as a result of the visit programme, to provide an accurate estimate of the overall total quantity of maize from the Promina damaged by stackburn, because sorting of remaining stocks was continuing. It is, however, thought likely to be less than 4000 MT.

Second (new) contingency stock - ex vessel Ourios

25. Discharge of the second WFP contingency stock, arriving from the USA on the vessel Ultrasea then transhipped to the vessel Ourios, was completed on 5 December 1995. An Export Grain Inspection Certificate for the Ultrasea cargo, issued by the US Department of Agriculture, indicating the quality of the maize, is given in Appendix 2. By mid-March 1996, of the 10,500 MT of this shipment distributed in Tanzania, only 2500 MT remained in Dar es Salaam. This maize, stored in bulk in silos, is unlikely to undergo serious deterioration and will not be cross infested by insect pests.

26. A total of 4,800 MT of the new contingency stock was received in Burundi and of this, 2500 MT was sent to Uvira (Zaire). No special problems regarding grain quality were experienced with this stock, all of which was distributed in Zaire by mid-February, and only 310 MT remained at Ngozi (Burundi) and this maize was to be distributed very shortly.

Maize purchases by WFP from Uganda

27. Where donors provide funds in place of commodities, WFP is able to purchase grain or pulses locally in East Africa, usually from Kenya or Uganda. However, there are potential problems with such purchases, an example of this being a consignment of approximately 850 MT of white maize that had been purchased by the EEC from Uganda. This maize had to be condemned as unfit for human consumption as a result of high moisture and presumably fungal infection. It was finally sold as animal feed and the remaining part of this consignment, still in Kigali awaiting collection, was inspected at the WFP warehouse. It was very heavily infested by insects and posed a definite risk of cross contaminating WFP commodities stored nearby.

28. A consignment of white maize, that had just arrived from Uganda, was inspected at the WFP warehouses in Kigali and found to have an unacceptably high moisture content (ca 16%) compared to a maximum level of 14.5% in the specification provided by WFP. In addition, the maize was infested with a primary insect pest (*Sitophilus* spp.) indicating that it had not been fumigated (or not fumigated effectively) in Uganda prior to departure. The high level of moisture and presence of insects suggested that the maize was not inspected for quality prior to transportation from Uganda.

29. Problems of maize quality in consignments purchased by WFP from Uganda were discussed in Kigali with local representatives of the cargo superintending agents, Baltic Control. It was

concluded that, if the maize suppliers (Conagra) were made aware that WFP commodities would be inspected before despatch from Uganda, grain of the required quality was more likely to be provided. In addition, if inspection of maize were provided on arrival at WFP sub-offices in Rwanda, this would be a further incentive for suppliers to meet the required quality conditions. In addition, this should reduce delays in unloading that occur at sub-offices, by making it unnecessary for WFP inspectors to travel from Kigali after arrival of the grain.

ACCEPTANCE OF MAIZE IN RWANDA

30. Although white maize is eaten in the north of Rwanda, possibly due to the influence of nearby Uganda, the main diet of Rwandans includes bananas (cooking variety) and beans. There is an inherent disregard in Rwanda for yellow maize which is generally considered as animal feed. The provision of yellow maize by WFP does not, therefore, commence from a favourable position.

31. Because maize supplied by WFP in Rwanda is mostly through food-for-work programmes, the beneficiaries regard the maize in cash terms, rather than as food, since it is often sold rather than consumed by the recipient. Beneficiaries do not expect a good selling price for yellow maize unless the quality is very high. It is reported that the attitude of some persons in Rwanda is that the plastic bag (50 Kg), in which the maize is supplied, is of more value than the contents. In the local market, whilst the value of white maize was reported to be RFr.70, the value of yellow maize can be as little as RFr.20.

32. The difference between supplying maize within Rwanda, in food-for-work programmes, and to refugees in bordering countries needs to be recognised. Refugees, generally, have little choice regarding the quality of food donated, and likely to be consumed, and are less likely to reject yellow maize containing broken grains and dust, than are Rwandans who receive the grain in food-for-work programmes.

OBSERVATIONS ON STORAGE MANAGEMENT OF WFP COMMODITIES IN THE REGION

33. At all the locations visited during the mission, commodity management by WFP personnel and their agents, was usually well conducted, often under difficult climatic conditions (particularly rain), and often in remote areas, sometimes both of these factors were evident.

34. Apart from the problems of maize spoilage associated with stackburn, no situations were encountered where serious damage/losses to commodities had taken place because of negligence by WFP personnel. Wetting of stocks, by rain, is a constant threat during the rainy season, that was commencing at the time of the mission, and spillage from bags, particularly at port locations also results in some grain losses. Spillage was usually caused accidentally, from bags torn during handling, but wetting was sometimes the result of deliberate actions. These included the disturbance of protective tarpaulins during the theft of maize from rail wagons, permitting rain to penetrate, and at Kigoma the handling agents were reported to favour commercial shipments rather than those belonging to WFP. Protective tarpaulins (provided by WFP) were sometimes used to protect commercial shipments rather than those of WFP. In addition, it was reported that commercial cargoes were sometimes given preference for covered storage space.

35. Insect infestation is a constant problem in tropical countries but levels of infestation in WFP commodities inspected was seldom excessive. An exception to this was, however, noted condemned stocks of maize, and occasionally in blended foods, awaiting disposal. These stocks, although often relatively small, are a serious source of cross infestation to other infestible commodities.

36. Throughout the mission poor quality fumigation of WFP commodities by private contractors was evident, and the costs of these treatments was relatively high. In Rwanda, for example, this was reported to be US\$2.5/MT. At several WFP sub-offices fumigation equipment has been purchased, and staff were already conducting a limited amount of fumigation themselves.

37. Rodents were reported to be a problem in some locations, particularly in temporary stores (Rubb Halls), and at Ngara, where WFP stores are adjacent to a refugee camp, rodents seen, had probably originated in the camp. WFP personnel did not report excessive commodity damage levels by rodents, and the main commodity to which rodents were attracted was powdered milk. The use of rodenticides was not practised in any of the locations where rodents were evident.

38. The larger grain borer - LGB (*Prostephanus truncatus*), a serious pest of stored maize and cassava in several countries of East Africa, was not found on the mission during the inspection of commodities, nor were there reports of infestations of LGB in WFP commodities. Whilst in Dar es Salaam, however, the pest was reported in maize stocks held at the Tanzania Strategic Grain Reserve, in stores that have been recently used to hold WFP commodities.

RECOMMENDATIONS

Maize spoilage due to stackburn

39. Because spoilage of maize, by stackburn, can occur when the grain becomes heated, and accumulates during storage in plastic bags, WFP must take account of the potential for this type of spoilage in future stock management practices. The precise conditions leading to heat accumulation and stackburn are not clearly understood, but the most prudent course is avoidance of the conditions that are likely to result in stackburn. The period of storage is a major factor in the accumulation of heat in stacks, the heat arising from several possible sources including climate, fungal infection, and insect infestation. If storage space dictates the construction of large stacks, then to avoid the possibility of stackburn, these stacks should not remain in place for longer than 1-2 months or, should have aeration channels incorporated during construction. If storage space is not a constraint, then stackburn is much less likely to occur in stacks of less than 100 MT, since heat, from whatever source, will escape more readily from small stacks.

40. It must be noted that stackburn can occur at inland locations, if the temperature inside stacks becomes sufficiently high, and is not solely a problem at coastal locations. If the grain has a moisture level that results in fungal heating this could contribute to stackburn but, given the current state of knowledge, it is not possible to state categorically, that grain with a low moisture level will not undergo stackburn.

41. There is no available evidence to indicate that stackburned maize is harmful to consumers, and for this reason there is no scientific justification why such maize cannot be used for animal feed. Stackburned maize has been disposed of for animal feed purposes in Zimbabwe.

42. When WFP commodities arrive at Dar es Salaam, no report on quality is made by the appointed surveyors unless there is a quality problem. A certificate, indicating the commodity to be of satisfactory quality is, however, issued to the ship's master by the Tanzanian Plant Protection Department, giving permission to discharge the cargo. When a problem over commodity quality subsequently arises, as in the case of maize from the Promina, it would be helpful if WFP could request a copy of the certificate issued by the Plant Protection Department to show that the cargo arrived in a satisfactory condition.

Second maize contingency stack

43. There appear to have been no particular problems with this stock most of which has already been distributed, and by mid-March 1996, only 2,500 MT of this stock remained in Dar es Salaam in bulk storage. This maize can be expected to remain in reasonably good condition, it will not be affected by stackburn nor damaged by insect pests since, in silos, cross infestation is unlikely to occur. However, since it is old stock it would be wise to consider distributing it as soon as possible rather than using newer stocks first.

Fumigation and insect control

44. Facilities for fumigation are less likely to be readily available in remote areas, and the nearer that maize (or other commodity) is to its final destination, the more difficult it may be to arrange effective pest control. The best procedure to apply should be to ensure that effective disinfection is conducted as early as possible in the commodity transportation pipeline. Low-levels of infestation at inland locations, by secondary insect pests (e.g. *Tribolium* spp.) through cross infestation of commodities, is often difficult to prevent, but where substantial infestation by primary grain pests, such as by weevils (*Sitophilus* spp.) is detected, in stocks recently arrived, this indicates poor inspection procedures or failed fumigations (or no fumigation) at previous storage locations. This type of infestation, which can cause serious grain damage, must be avoided by timely and effective pest control programmes.

45. WFP personnel, if properly trained and equipped, could be expected to conduct fumigation more cost-effectively than commercial contractors since profit motives would not be the primary concern. A limited amount of fumigation is already being conducted by WFP staff in Burundi, and in Rwanda, and where appropriate this should be extended. Fumigation costs might be further reduced by using phosphine fumigants obtained from alternative manufacturers to those presently used.

The larger grain borer

46. The larger grain borer (LGB) is now well established in several countries in East Africa (particularly Tanzania and Kenya), but continues to be the subject of strict control operations to prevent its further proliferation or spread, particularly across country borders. To date, its presence has not been confirmed in either Zaire or Uganda. Locally purchased maize, particularly from Tanzania or Kenya, which could be infested by LGB, is likely to present the most serious threat of cross infesting other WFP commodities. The risk of cross contamination of WFP cargoes from vehicles previously used to carry local maize should not, however, be ignored.

47. Because LGB poses a threat to food security (serious problems with the pest have recently been reported in Zambia, in farm-stored maize), it is recommended that WFP takes all measures possible to prevent spread of the pest during the transport of food aid in the region. Effective measures to control LGB include fumigation, and spraying with pyrethroid insecticides.

Maize purchases from Uganda

Recent problems with moisture content and insect infestation in maize purchased from Uganda indicates that it is for WFP to appoint local superintending agents in Uganda. Inspection of maize in Uganda prior, to despatch, is highly recommended to ensure that consignments conform to the required quality standards. Also, in order to avoid delays in the acceptance of commodities delivered from Uganda directly to WFP sub-office locations (where there are no qualified inspection staff), it is recommended that arrangements be made for superintending agents to be present at these offices when deliveries are expected.

Rodent control

Although rodents were not reported to cause extensive damage to WFP commodities in countries visited, there was sufficient evidence of rodent activity in some locations to warrant the need for control measures. It is therefore recommended, that WFP makes suitable rodenticides available to all offices requiring them, together with training in their safe and effective use. Because rodenticides can deteriorate, it is not recommended that they be issued to offices where rodents are not a problem, and chemical is unlikely to be used. The rodenticides to be employed should be ready-to-use anticoagulants, such as brodifacoum (Klerat), bromodiolone, or floocoumaphen. Older rodenticides such as warfarin or zinc phosphide should be avoided.

LIST OF MAIN PERSONS CONTACTED

WFP Headquarters

Mr Yohannes Mengesha, Regional Manager, OME
Mr John Aylieff, Manager, Pipeline Project for East Africa

WFP Office Dar es Salaam, Tanzania

Mr Holdbrook Arthur, Country Director
Mr Mammadou Mbaye, Head of Logistics Unit
Mr Martinez Garcia, Port Captain
Mr Belliapa, Logistics Unit
Mr Nicco Kilapilo, Quality Control and Inspection

African Marine Surveyors (WFP superintending agents)

Mr John Mahemba, Chief Marine Surveyor

WFP Sub Office Ngara Tanzania

Mr Bradley Guerrant, Officer in charge
Ms Pauline Comtesse, Deputy
Ms Marie F-Bourgeois, EM Co-ordinator

WFP Office, Bujumbura, Burundi

Mr J. Siblot, Country Director
Mr C. Baker, Head of Logistics Unit
Mr Jean Claude Sonnevile, Import Control
Mr. Francois Latase, Uvira (Zaire) Operations.

WFP Office, Kigali, Rwanda

Mr Techeste Zergaber, Country Director
Mr Boubacar M Diop, Head of Logistics Unit
Mr Robert Gillenwater, Transport/distribution Sub-Offices
Mr Gaute Birkeland, Warehouse Manager, Kigali

Baltic Control, Burundi/Rwanda Offices

Mr Ladislav Ntahinyeretse, Administrator
Mr Joseph Kameca, Rwanda Representative

TRAVEL ITINERARY 9-24 March 1996

- | | |
|--------------------|---|
| 9 March | Arrive Dar es Salaam |
| 11 March, am
pm | Discussions with staff at WFP Office
Visits to WFP stores and the port at Dar es Salaam to inspect commodities |
| 12 March | Further discussions with WFP staff and visits to stores with Mr Mengesher and Mr Aylieff |
| 13 March | Travel by air to Isaka, Tanzania. Discussions with WFP staff at Sub-Office, and to inspect commodities.
Travel by road to Ngara, Tanzania. Discussions with WFP Sub-Office staff and to inspect commodities. |
| 14 March, am
pm | Travel by air to Kigoma, Tanzania. Discussions with WFP Sub-Office staff and visit port facilities, to inspect storage and operations.
Travel by air to Bujumbura, Burundi. Preliminary discussions at WFP office regarding visit programme. |
| 15 March, am
pm | Inspection of WFP stocks in Bujumbura
Travel by road to Uvira (Zaire) to inspect port facilities and stored commodities. |
| 16 March | Travel by air to Ngozi (Burundi). Discussions with WFP staff and inspection of stocks. |
| 18 March, am
pm | Travel by air to Kigali (Rwanda). Discussions and briefing at WFP Office.
Discussions with representatives of Baltic Control (cargo superintendants) regarding quality parameters for maize, especially that imported from Uganda. |
| 19 March | Inspection and sampling of WFP stocks in Kigali, discussions on quality control with staff responsible for storage and quality control. |
| 20 March | Visits in Rwanda, to WFP Sub-offices at Gitarama, Butare, and Gikongoro for discussions with staff and to sample and inspect stocks. |
| 21 March | Further visits, as above, to Rwamangana, Kibungo (refugee transit camp), and Nyagatare. |
| 22 March | Travel by air to Entebbe, Uganda. |
| 23 March | Debriefing at WFP office, Kampala. |
| 24 March | Return to the UK |

LAB NA.1211/95

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF HEALTH

Telegrams: "CHEMILAS".

Telephone: 25021,2

Address all correspondence to:

Chief Government Chemist.

In reply please quote:

Your Ref. No. AM/DSM/95/411

Our Ref. No. 212/1/



GOVERNMENT CHEMICAL LABORATORY,

P.O. Box 164,

DAR ES SALAAM.

15.12.1995

African Marine Surveyors
and Consultants Ltd,
P.o. Box 40089,
Dar es Salaam,
Tanzania.

Re: QUALITY TEST ANALYSIS YELLOW CORN EX-USA ARRIVED ON BOARD MV
'PROMINA' PER SHIPPING INSTRUCTION NO.9510221:

On 12th December, 1995 we received one sample of yellow corn for
quality test analysis as your letter with ref.No AM/DSM/95/411
dated 12.12.1995 requested.

Analysis has been done as follow:-

- (1) Moisture.....10.6%
- (2) Foreign matter....1.3%
- (3) Broken Grain.....3.4%
- (4) Insects damaged...4.2%
- (5) Ash.....0.6%
- (6) Dead & live Insects... NIL

V. J. Mpore

Ag: CHIEF GOVERNMENT CHEMIST

GOVERNMENT CHEMICAL LABORATORY
DAR ES SALAAM
15



UNITED STATES DEPARTMENT OF AGRICULTURE
 FEDERAL GRAIN INSPECTION SERVICE
 U.S. GRAIN STANDARDS ACT
 OFFICIAL EXPORT GRAIN INSPECTION CERTIFICATE

ORIGINAL NOT NEGOTIABLE
 us-35580
 October 12, 1995
 (DATE OF SERVICE)

Destrehan, Louisiana
 (ISSUED AT)

I certify that I am licensed or authorized under the United States Grain Standards Act (7 U.S.C. 71 et seq.), to inspect the kind of grain covered by this certificate.

ORIGINAL INSPECTION REINSPECTION APPEAL INSPECTION BOARD APPEAL INSPECTION

QUANTITY (THIS IS NOT A Weight Certificate)

85,538,360 Pounds

LOCATION Continental Grain Elevator, Westwego, Louisiana

IDENTIFICATION OR CARRIER S/S-GRASSA

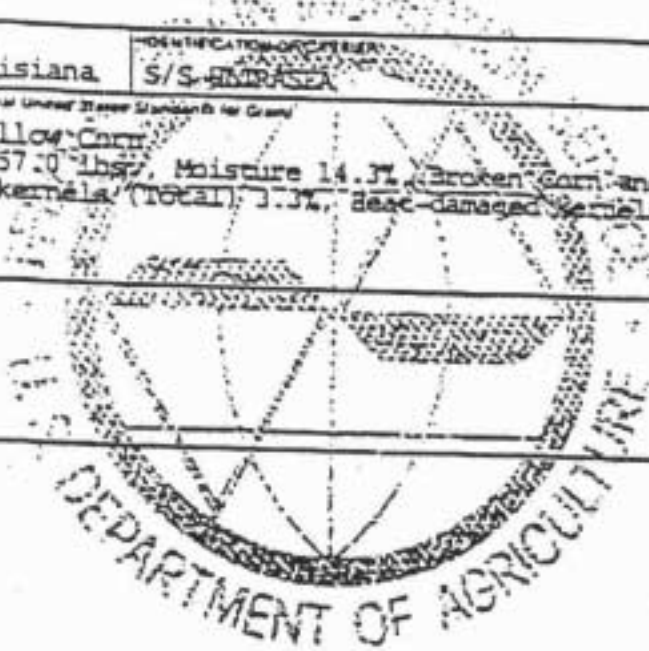
GRADE AND KIND in accordance with the Official United States Standards for Grain

U.S. No. 2 or better Yellow Corn
 Test weight per bushel 57.0 lbs., Moisture 14.3%, Broken Corn and foreign material 2.5%, Damaged kernels (total) 3.3%, Heat-damaged kernels 0.0%

STORAGE

Hold Nos. 2,4,5,7,8.

REMARKS



APPEAL NO. IF APPLICABLE

APPLICANT

Continental Grain Co.

NAME AND SIGNATURE

Janet Walton *Janet Walton*

This certificate is issued under the authority of the United States Grain Standards Act, as amended (7 U.S.C. 71 et seq.), and the regulations thereunder (7 CFR 900.9 et seq.). It is issued to show to bond, store, grade, weigh, transport, or otherwise of grain or the contents of a car or container for the purpose of its exportation, or other interstate movement of grain, or other interstate movement of grain as determined by other purposes. The statements on this certificate are made true as the time and date the inspection or the weighing and performance. The certificate shall not be considered representative of the lot of the grain if it is subjected to a subsequent inspection from the classified car or container or if grain or other material is added to or removed from the total lot. If the certificate is not required by a regulatory certificate, it is receivable by all officers and all agents of the United States or other laws under the laws of the United States. This certificate shall not be used in connection with the provisions of the Federal Food, Drug, and Cosmetic Act, or other Federal law.

WARNING: Any person who shall knowingly furnish false, blank, other, forged, or counterfeit this certificate, or participate in any such activity, or otherwise violate provisions in the U.S. Grain Standards Act, the U.S. Warehouse Act, or receive Federal laws, it subject to criminal civil, and administrative penalties.

To conduct at all terminals and the Agency of International Development personnel under the inspection governing such services shall be accomplished without discrimination on the race, color, religion, sex, national origin, age, or handicap.