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PULSE INDIA

AN INDIA PULSES AND GRAINS ASSOCIATION PUBLICATION

- Every 10th February World Pulse Day
- Gafta's Simple Dispute Arbitration Rules No. 126
- Global Pulse Area Under Pressure
- Mixed Pulses Nutrients



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From the Chairman's Desk



Dear Patrons,

Another year has passed, and Indian pulses sector continue to face numerous challenges. The year gone by has seen a lot of policy changes. The Government decided to take measures to double the farmers income and came out with ambitious MSP increase. At the same time decided to curb imports by imposing the quantitative restrictions and levying the duties. However, all these measures did not yield the desired results as prices of the pulses ruled way below the MSP throw-out the crop seasons resulting in the poor remuneration to the farmers. Similarly, Traders/ Importers also stayed away from the markets given the weak sentiment in the pulses sector. Another alarming factor in the trade was that the decisions of the DGFT curbing the imports were also challenged by some importers in the various courts and the stay was granted by these honourable courts resulting in huge quantities of pulses being imported through these stay orders granted by the Courts.

Though there has been challenges but at the same time there has been some positive news also. India did manage to grow enough pulses in last two years for its huge vegetarian population. Thanks to two good Monsoon seasons which are essential for the cultivation of pulses in India. However low yield and practices in pulse farming still need lot of improvement. Prices continued to remain reasonable through out the year thus benefitting the consumers. Exports were allowed after a long time though there has not been much push in the exports given the low prices prevailing in the international markets and Indian Pulses being expensive. Efforts were made by the Government to procure larger quantities of pulses from the market to support farmers though Infrastructure like warehousing etc. is not adequate and need robust planning for future to support procurement Plans of the Government.

On International front, 10th February has been declared as WORLD PULSE DAY by the United Nations General Assembly. This certainly is a big achievement and many pulses growing nations shall be celebrating this World Pulses Day on 10th February. There have been some concerns expressed by the large pulse growing nations like Canada, Australia and others regarding the unpredictability of the Indian Policies in the pulses sector as the restrictions on imports have adversely affected their farmers and they have made this as an issue at the WTO. IPGA interacted with a Mission from Canada led by the Honourable Premier of Saskatchewan, A province in Canada. The Mission believed in the absence of a demand from India, The Canadian farmers may shift to another crops in the coming crop season and this could lead to a short supply in case India decides to buy in future. We certainly are staring at a complex situation as the estimates of our Rabi Crop has shown deficit in the acreage and the dip in yield given the adverse climate conditions. We need to tread cautiously and bring about a policy regime which is beneficial to both growers and consumers. We also need to give the right signals to the Pulses growing nations about our future requirements so as to ensure that we have adequate supply chain available in case our production falls below our requirement.

Jai Hind.

ZAVERCHAND (JITU) BHEDA
CHAIRMAN
India Pulses and Grains Association

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Contents

- 4 CEO Speaks – Varinder Machhral

Special Section

- 5 Every 10th February World Pulse Day
by Huseyin Arslan
- 7 Gafta's Simple Dispute Arbitration Rules No. 126
by Beth Jameson,

General Outlook

- 9 India needs to adopt a holistic approach to pulses
by Prerna Sharma Singh
- 12 Global Pulse Area Under Pressure by Brain Clancey
- 16 Mixed Pulses Nutrients
by Saili Randive & Sheryl Salis
- 20 Changing market dynamics in world pulses market
and challenges being faced by Gaurav Bagdai

Research

- 22 Pulses Import Statistics by Nikita Chury

Trade

- 24 First Advance Estimates of Production of Food
Grains for 2017-18.

Recipes

- 26 STUFFED PEPPERS WITH CAVIAR LENTILS AND RICE
SPINACH CROQUETTES WITH CHICKPEA FLOUR
CHERRY TOMATOES FILLED WITH CHICKPEAS AND
CHEESE
MANGO AND MARZIPAN ROLLS



Varinder Machhral
CEO IPGA

Dear Patrons,

A very Happy New Year.

It gives me immense pleasure to inform you all that United Nations General Assembly has announced 10th February every year as the World's Pulses Day. This certainly will help Pulses finding favour as a genuine source of protein around the world. Congratulations to all the stakeholders in the Pulses Sector around the World. This would not have been possible without the active participation of you all.

Year 2018 is gone, and we have seen so many changes in this year. We saw restrictions being imposed on the imports owing to the large production of pulses in India in last two consecutive years. We also saw these restrictions being challenged in the various courts and stay orders being granted by some honourable High courts in India resulting in continued imports of pulses at select ports. Questions have been raised constantly if the Government was serious while imposing these restrictions as the response of the DGFT to the various petitions filed by various people in different courts has been very slow and least effective. We can see that all the hard work done by the government like enhancing the MSP, Restricting the imports and procurement of pulses in large quantity by the State Agencies like NAFED have not yielded the desired results. Farmers could not sell their produce on MSP levels as there was a natural lack of demand in the market as we have had been sitting on large stocks accumulated in the previous year. Besides this the government agencies constantly kept offloading their stocks in the market on regular intervals on price lower than MSP. This resulted in private players shunning the markets and not participating in the procurement fearing that any sale by State Agencies at any given point of time at a lower price (Lower than MSP) will have direct bearing on the prices of their stocks. We all are together in our thinking that income of the farmers must be increased but increasing the MSP alone will not help until it is backed by a robust procurement plan by the Government. Storage of large quantities of pulses is yet another challenge as the goods may have to be kept in good health for a longer duration and we need to build up the necessary infrastructure for the same.

We as a Nation are largely dependent on pulses for our protein intake and this fact is known to the world markets. Many a country like Canada, Australia and African Countries increased their acreage for pulses considering that they have a market in India. However, in last year we have cut down substantially on imports and thus all these countries growing pulses have also started thinking of shifting to other crops for the benefit of their farmers. This can throw another challenge for India. As we all see from the media reports that India certainly is seeing a fall in acreage of pulses in this year owing to adverse weather conditions and if reports are to be believed, we may be short substantially in the production of pulses. Hence the Government need to monitor the situation more closely and send the right signals to the pulse producing nations so that they continue with the pulses production and do not shift to other crops. Besides this Government may also take call on importing pulses in their own account through Various Government Agencies like MMTTC, STC, NAFED etc to create a buffer to meet any unwanted exigency.

We at IPGA are constantly engaging with the Government and apprising them of the situation from time to time. We sincerely hope that this year unfolds lot of opportunities for all the stakeholders in the pulses value chain right from Farmers, Millers, Traders, Service providers and Consumers. Before I sign off, I would request all of you to give us your valuable feedback from time to time and send in your contributory articles for **Pulse India**. You may write to me at varinder.m@ipga.co.in I also take this opportunity to thank all the advertisers for their support.

May you all have a wonderful Year 2019.

Varinder Machhral
CEO IPGA

Every 10th February World Pulse Day

Huseyin Arslan

*Executive Chairman, Board of Directors;
President The Arbel Group*



Sometimes with all the talk of trade wars and political rhetoric it is easy to forget all we have in common as a global pulse industry. Whether we are a farmer in Tanzania or a farmer in Canada, a processor in Australia or an exporter in China we all want the same basic things. We want to produce pulses on our lands in a sustainable way that preserves the lands for future generations. We all want to be able to sell our products at reasonable prices so as to provide for the needs of those that depend upon us. And we want to produce high quality pulses that are safe and reasonably priced for consumers – because we are also consumers.

Sustainability is one of our common interests. We can all be proud to be part of an industry that produces such safe, sustainable foods. A Ukraine farmer growing peas leaves his soils better than before he planted. A Brazilian farmer growing black beans provides a terrific plant based protein that is part of their famous weekly feijoada. And the chana grown in India, which is used in hundreds of tasty dishes, requires less water than many other crops making it a very resource friendly choice.

Pulse industry farmers, food processors and food manufacturers are on the front lines of sustainability. By its very nature the production model of pulse farming is built on sustainability. Food processors and food manufacturers also adopt sustainable business models to meet the needs of both current and future consumers. Increasingly that means offering plant based proteins such as pulses for consumers who realize that their food choices can affect not only their health but the health of our planet.

Of course, it's not enough to just be good stewards of the land or follow sustainable practices. True sustainability also necessarily includes economic

sustainability. Unfortunately, of late, we have seen an alarming rise in tit-for-tat tariffs and trade policies that have taken an economic toll on the pulse industry.

To be economically viable the global pulse industry needs greater transparency and predictability when it comes to trade and tariff policies and non-tariff trade barriers. To achieve greater predictability and transparency the Global Pulse Confederation is working with our 24 national association members, including IPGA, to develop messaging and advocate for government policies that reflect our common interests. As part of this effort we developed the Colombo Accord, which encourages increased consumption, production and trade policies and government actions that are predictable and transparent.

We are also working as part of the Coalition to Reform Codex to help ensure that the food consumers receive continues to be both safe and available. There are also many MRL issues under discussion and

GPC continues to reinforce that a scientific based approach is the only way to go forward. Speaking of which, we are happy to see the Food Safety and Standards Authority of India(FSSAI) has declared all imported pulses are safe.

Despite the present challenges the future of the pulse industry is very bright. "The United Nations General Assembly **unanimously approved World Pulses Day** on Thursday December 20, 2018. **World Pulses Day will take place every February 10**, with first official kickoff event in Burkina Faso (with other events occurring around the world)." I hope you will take this opportunity to share with the world your love of pulses (for information about planning your World Pulse Day event visit www.globalpulses.com).

Despite the present
challenges the future
of the pulse industry
is very bright.



Colombo Accord Summary

The Colombo Accord is an Agreement and Call for Action between the National Federation members of the Global Pulse Confederation (GPC).

The Colombo Accord is an agreement on a strategy for growth to enhance the health of people and the planet. Developed and led by the GPC, this global framework will promote the production of pulses in a wide range of ecosystems, increase consumption of pulses to enhance the dietary quality of all people, champion the development of clear and predictable government trade policies, and enhance trade contracts and provide fair returns to buyers and sellers to further protect the interests of producers and consumers. Principles and Positions of the Colombo Accord: as National Federation members of the GPC, and signatories to the Colombo Accord, we agree to work collaboratively to address priorities and promotion industry positions in four key areas:

1. Production

Increase pulse production by farm holders in all countries to provide an important additional source of food and income.

Enhance pulse productivity by increasing the yield and resilience of pulse crops through research into pulse breeding and agronomic management of pulses within a cropping system.

Position

GPC and National Federation Members will act together to increase pulse production and agronomic productivity by advocating for improved research funding from private and public sources.

2. Consumption

Support the development of demand for foods and feeds made from whole pulses, split pulses, and food ingredients like flours and fractions.

Promote the contribution of pulses to healthy diets and sustainable consumption by increasing the knowledge and awareness of the nutritional and environmental value of pulses in diets – particularly via vehicles such as World Pulse Day.

Position

Through new and ongoing initiatives, including a 'World Pulse Day', GPC and National Federation Members will work together to increase demand for pulses by fostering ongoing awareness of the health, nutrition and functionality benefits of pulses.

3. Trade policy

Champion the development of clear, fair and predictable trade policies that protect the interests of importing and exporting nations.

Protect the health of people and the environment by ensuring adherence to science based international plant protection policies.

Position

a. GPC and GPC National Federation Members will advocate for plant protection policies that are consistent with IPPC, technically justified, consistent with the pest risk involved, represent the least restrictive measures available, and result in the minimum impediment to trade in pulses.

b. GPC and GPC National Federation Members will advocate with Governments to provide prior notification to exporters of tariff or quota changes. In-transit (en route) shipments should be subject to the tariff or TRQ in effect at time of signing of the contract or, at a minimum, the date of issuance of the Bill of Lading.

c. GPC and National Federation Members will act together to ensure WTO/GATT member countries' trade and notification policies and tariffs and quantitative restrictions are compliant with their international obligations.

d. GPC and National Federation Members will act together to encourage non-member countries to respect international conventions.

e. GPC and National Federation Members endorse the trade policy concepts in the attached discussion paper and any other approaches that would provide measurable improvement for transparency and predictability of tariff changes and future trade actions by pulse importing countries.

4. Trade performance

Strengthen contract performance and reduce trade risk for buyers and sellers of pulses by encouraging widespread use of GPC Global Pulse Contract.

Foster transparency in pulse trade to enhance food security and minimize price volatility in pulse trade.

Position

GPC and National Federation Members will work together to increase market order and discipline by encouraging pulse industry members to use the GPC Pulses Contract. GPC and National Federation Members will work to adopt disciplinary policies for companies or persons that fail to honor arbitration awards made based on GPC Pulses Contract.

Gafta's Simple Dispute Arbitration Rules No. 126 dated 20 September 2016 and Gafta's new Expedited Arbitration Procedure Rules No. 126 dated 01 November 2018.

Beth Jameson,
Gafta Arbitration Manager



Gafta have recently updated their simple dispute rules no. 126. The changes came into effect on 01 November 2018 and eventually will affect all future arbitration claims under GPC Pulses Contract No. 1. Currently any dispute under GPC Contract No.1 is dealt with under Gafta Simple Dispute Arbitration Dispute Rules No. 126.

Any GPC contract dated 01 November 2018 and onwards will automatically be dealt with under the new Expedited Arbitration Procedure Rules No. 126

The Key changes made to Gafta's 126 Arbitration Rules effective from 1 November 2018 are as follows:

- The rules have been renamed. "Expedited Arbitration Procedure Rules No. 126" instead of "Simple Disputes Arbitration Rules No. 126". The decision to remove the word "Disputes" from the title was made in order to make these rules more consistent with 125 rules.
- The rules no longer contain a definition of an "Expedited Arbitration Procedure", this previously appeared at 8.2 of the 126 rules dated 20 September 2016.
- The wording of the Expedited 126 rules has been based on the current wording of the 125 rules. The procedure of arbitration cases brought under both rules will now be more similar, with the main difference being no right of appeal and the shorter timetable under 126 rules.
- In order to harmonise the rules with 125 there is no longer a capped fee for arbitrators. Fees were previously fixed at £650.00. Gafta's fee will remain at £700.00.
- At 3.2 of the new Expedited 126 rules parties now have 14 days to agree on the identity of the Arbitrator, failing which either party can apply to Gafta to appoint a Sole Arbitrator. There will be a charge of £150.00 for Gafta to appoint an Arbitrator and Gafta requires the same evidence (as outlined

at 3.4 of the 125 rules) for the appointment on behalf of Respondents.

- The "Arbitration Agreement" at the end of 126 rules has been removed. Should parties that have previously agreed to dispute resolution as per 125 rules wish to opt into 126 rules there will be a separate document that Gafta provides.
- In order to make it clear to parties that there is no right of appeal under 126 rules the Gafta Arbitration Committee agreed for a sentence to be inserted at 1.3 as follows:
- There is no right of appeal to either Gafta or to the courts from this award which shall be final and binding and the parties hereby waive any such right of appeal or legal recourse insofar as any such waiver may be validly made.
- The clause prohibiting a private practice lawyer from preparing a case under 126 has been removed. The clause which previously appeared at 5 of read as follows:
5. REPRESENTATION
In the event that there is an oral hearing the Parties may be represented at the arbitration by an agent engaged in the Trade, but they may not be represented by, nor may they engage for the purposes of the presentation or preparation of their case, a solicitor/barrister or other legally qualified advocate or advisor wholly or principally engaged in private practice.
- All references to Claimants and Respondents are now consistently plural.
- Reference to "GAFTA" has been changed to "Gafta".
- All references to "Sole Arbitrator" are now "Arbitrator".

The Main features of the Simple Dispute Arbitration Dispute Rules No. 126 which have been retained in the new Expedited Arbitration Procedure Rules No. 126 are

as follows:

- The case will always be heard by a Sole Arbitrator, as opposed to a Tribunal of three arbitrators.
- The parties can proceed with claims swiftly. The time limits for submissions begin with Claimants having 7 business days from the receipt of the notice of the appointment of the Arbitrator in which to submit their claim submissions. Respondents then have 7 business days to submit their statement of case submissions and finally Claimants have 7 business days thereafter to reply to any new points which have been raised.
- The Sole Arbitrator has discretion to amend the time limits if necessary.

Procedurally, the deposit for claims heard under the previous or current 126 rules will need Claimants to

deposit £8,000.00 which must be received by Gafta within 10 days of the date of the letter of appointment. As soon as the award has been drafted and signed by the Sole Arbitrator, (and given that Gafta holds sufficient funds on account) the award will be dated and issued to both parties by email and courier. Any non-member party will be charged a non-member fee of £1,500.00, the latter will be deducted from the deposit held when the award is ready to be issued. Furthermore, if any party to the award fail to abide by the final award then Gafta has a duty to communicate this notification onto GPC and their executive Committee in order for action to be taken against the company and it's officers. The party that failed to honour the award may be suspended or banned from future GPC events and membership. Finally, as per rule 25 of GPC Pulses Contract No.1 both parties must first consider dispute resolution under Gafta Mediation rules 128.

Gafta Arbitration – quick and inexpensive

By Andrew Jacobs, Co-Chair, GPC Contracts Committee

Global Pulse Confederation contract #1 utilises Arbitration as per Gafta Arbitration Rules #126 (Simple Arbitration, now renamed as "Expedited Arbitration"). A case which concluded recently shows how Gafta Arbitration can be professional, quick and inexpensive. Gafta Case 17***2 is an example of the professionalism of Gafta Arbitration Services. Here is the timeline:

9 October	Arbitration claimed
10 October	Sole Arbitrator appointed
16 October	Claimant's submission made
23 October	Arbitrator clarifications received from Claimant seller
31 October	Respondent's defence submission made
8 November	Claimant's closing submission made
13 November	Arbitrator closed submissions
20 November	Award issued for US\$ 235,000 plus interest and charges

Arbitration fees only GBP 3,292 = US\$4,214 (plus Gafta non-member fees, if applicable). Total of only 42 days from claim being made to Arbitration Award being issued. This deserves the name "Expedited Arbitration process." Within the GPC circles I am a great advocate of Gafta Arbitration; it is fair and robust. One of the complaints is that it is slow and expensive. Well we've exploded those myths with this case. It makes me proud to be associated with Gafta and its excellent services for international trade.

India needs to adopt a holistic approach to pulses

Prerna Sharma Singh

*Vice President & Head of Agriculture,
Food & Retail at Biznomics Consulting*



India's pulses market has been the victim of unfavourable regulations and policy flip-flops that don't help in meet the challenges of growing demand-supply gap and price volatilities. The government's long due reforms such as opening up of exports after a gap of almost a decade, prohibitive restrictions on imports and substantial rise in support prices of pulses fail to mollify growers who make a strong vote bank.

India is the top producer of pulses accounting for one-fourth of the world's output but still remains the world's top importer. The country's pulses output is up 54% in a span of last three years crossing 25 million metric tonnes (MMT) but, 1/5th of its total requirement is still met through imports. Due to rising middle class population and the increasing preference for protein-rich food, the demand for pulses is rising at a faster rate than increase in its production.

The flawed support price regime

The production shortfalls driven by deficit monsoon in 2014 and 2015 resulted in prices more than doubling of their averages. To deal with supply shocks and resultant food inflation, New Delhi relied on its favourite policy tool of raising support prices. Some states such as Madhya Pradesh added their bonuses to MSPs to further incentivize pulses cultivation. As a result, the floor prices of pulses witnessed a jump of 10%-15% annually in the last three years. Farmers responded positively to the signals of higher market prices seen in the years of scarce monsoon, high MSPs well supported by normal monsoons of 2016 and 2017 which gave a boost to pulses output.

However, the measure backfired as the MSP hike was not

adequately supported by storage, effective procurement operations unlike rice and wheat and market space to absorb the surge in supply. Unreliable market information system and failure of anticipating record production levels led India to import the highest ever quantity of pulses for a whopping \$4.2 billion in 2016/17. As a result of supply glut for the last two years, average mandi prices of majority of the pulses fell below their MSPs, for instance, kharif pulses such as moong and urad traded 40-55% below their MSP in October' 2018.

In the absence of long awaited reform measures such as lifting of a decade-old ban on export of pulses, increase in import duties on pulses and re-listing of chana futures

In the absence of long awaited reform measures such as lifting of a decade-old ban on export of pulses, increase in import duties on pulses and re-listing of chana futures didn't do much to support prices.

didn't do much to support prices. A free fall was witnessed in the prices that caused huge resentment among farmers against government leading to nation-wide protests and rallies on a regular basis. The farmers' anger against unsustainable farm produce prices are believed to be one of the major factors behind BJP's humiliating defeat in three major North Indian states.

High volatility in pulses

Major pulses are thinly traded because of the restrictive trade rules, heavy dependence on monsoon and general climatic conditions and dominance of domestic factors. India relies heavily on support prices and control of export and imports including quantitative restrictions and tariff hikes that make it an unreliable trade partner. An import duty hike on Tur to 10% followed by imposition of quantitative restrictions till 0.2 MMT in 2017 adversely affected major pulses exporters such as Tanzania, Myanmar, Canada as price fell. India raised

the import duties to 60% for chick pea, 50% for peas and 30% for lentil which was nil before 2017.

Other than the government measures, high dependency on monsoon (>84% of pulses cultivation is dependent on rainfall) and lower productivity are the major challenges that the pulses market is facing for long. Though government has taken steps to raise productivity

through adoption of advanced production technology, mechanization and cross-breeding programmes but those have limited impact. India lags far behind the other key producing countries in terms of productivity of pulses e.g.: Tur (pigeon pea) yield averages 725 kg/ha in India that is roughly half its yield in Myanmar (top pulses supplier to India). These challenges make this commodity segment highly volatile.

Chronology of major policy changes in 2017/18:

Sr. No.	Year	Month	Policy changes
1.	2017	March	Imposed 10% import duty on Lentils & Tur
2.		March	Increase in buffer stock of pulses to 2 MMT for 2017/18 season
3.		June	Govt. hiked MSP of Kharif pulses by upto INR400/Q
4.		July	Ban on Chana futures lifted (imposed in June 2016)
5.		August	Quantitative restrictions on annual import quota for Tur (upto 0.2 MMT) Quantitative restrictions on annual import quota of Urad & Moong (upto 0.3 MMT)
6.		October	Govt. hiked MSP of Rabi pulses by upto INR400/Q
7.		November	Import duty on Peas raised to 50% from zero
8.		November	Removal of blanket-ban from exports of pulses including organic pulses
9.		December	Import duty raised to 30% for Chana & Lentils

Sr. No.	Year	Month	Policy changes
10	2018	February	Import duty on Chana raised further to 40%
11.		March	Import duty on Chana finally raised to 60% excluding Kabuli Chana
12.		March	Introduction of 7% export subsidy on Chana for 3 months to June 20
13.		April	Quantitative restriction on annual import of yellow peas to 1 Lakh ton (extended till 31st December)
14.		July	MSP of Moong increased by INR1400/Q, other kharif pulses by upto INR220/Q
15.		August	Allowed imports for 125 tons of Peas
16.		October	MSP of Rabi pulses raised by upto INR225/Q

The way forward

Over the years, the government’s attempts through market interventions such as trade restrictions and MSP hikes to stabilize pulses prices and reduce the demand-supply gap has been quite unsuccessful and requires a systemic overhaul of policies.

Modi government’s much hyped mission to double farmers’ income has led to substantial hikes in support prices of most crops including pulses. However, simply raising the MSP is of no benefit to the farmers unless it is backed with effective procurement. On the other hand, it increases the raw material cost for other value chain participants like millers and consumers and thus harms the farmers indirectly. Even if the government increases the procurement of pulses like rice and wheat which may help in checking the falling prices but there’s a limit to how much the government can buy to support prices. That is mainly due to the lack of storage and high economic cost of procurement (actual cost plus the cost of transport and wastage). The widening fiscal deficit and the ongoing slowdown in the economic growth of the country tell us why the government can’t afford to expand its cost burden on account of food procurement.

So, a shift from price-based approach to income transfer may help the growers as it has helped farmers in Telangana. India can become a reliable trade partner by maintaining friendly trade relations with its counterparts

by freeing the trade from any bans and regulating the demand supply through tariffs. A well developed and properly regulated futures market is another key to support the sector by allowing the farmers, buyers and traders to hedge the risk of price volatility. Chana is the only pulses category traded on the exchanges and that too faces frequent bans, and listing and re-listing while the fate of tur and urad futures banned in 2007 are still under wait.

The government should ensure immediate delisting of pulses from archaic Agricultural Produce Marketing Committee (APMC) laws to let farmers sell their produce wherever they want and improve their net price realization.

Lower productivity remains a serious problem. Thus, long-term measures should include reducing dependency on unpredictable monsoon by improving irrigation facilities and raising productivity through increased investment in R&D and encouragement to GM technologies as breeding in pulses is limited by narrow genetic base and vulnerability to pest and disease attacks. There are no short-term fixes for the regulatory mess that has been created in the pulses sector.

(Prerna Sharma Singh is co-founder, director and head of agriculture, food and retail with Indonomics Consulting Pvt. Limited. Views are personal.)



Global Pulse Area Under Pressure

Brain Clancey
Stat Publishing

International pulse markets have seen fundamental changes field pea demand patterns during the past two years as India strives to achieve self-sufficiency in domestic production. Despite apparent success, there remains a significant risk of increased demand and price volatility in 2019 and beyond because the country's farmers remain reliant on moisture conditions during seeding and crop development.

India's withdrawal from markets and imposition of quantitative limits on imports field peas resulted in a drop in average trading levels for the commodity. That coincided with the trade war between China and the United States, which saw duties imposed on soybeans and moves by the country's livestock feed sector to diversify sources and reduce protein levels in livestock feed.

Consequently, field pea exports to China surged. Canadian shipments to China jumped from an average of 787.00 metric tons between its 2011-12 and 2015-16 marketing years to just over one million in 2016-17 and almost 1.9 million between August and July of its 2017-18 marketing year.

Demand from that sector is based entirely on price. As long as prices for peas are competitive with competing products from other origins, the livestock feed sector will be a buyer. As surplus stocks are removed and prices start to advance, demand shrinks. This creates an effective floor price for peas on world markets, with the result any improvement in usage by human consumption markets generally causes prices to raise.

As the 2018 calendar year closed this effect became

evident, with speculative purchases by importers in India combining with normal demand to lift prices for northern hemisphere peas off their post-harvest lows.

Problems with Australia's crops helped. This year's crops are down sharply because of poor growing conditions. Australia will be forced to reduce exports from levels seen during its 2017-18 marketing year, but because of the smaller crop should see residual supplies

of peas drop under 10,000 metric tons, which are only enough products to cover two weeks of normal demand.

Globally, residual supplies of peas are expected to be similarly low, with the result markets would be expected to have a hard time dealing with unexpected demand before the 2019 harvest. Even so, potential gross returns between August and December are down relative to grains and oilseeds.

In Canada's case, average gross returns as a percentage of those for wheat, durum, barley or canola are down so far from averages experienced during the 2017-18 marketing year and below their recent three year averages. The implication is that without a surge

in demand and prices before seeding decisions are finalized, land in peas in Canada and the United States are more likely to be unchanged to lower than increase.

There is increased optimism that importers on the Indian subcontinent will return as major buyers in 2019. Depending on the timing of purchases and its impact on prices, the outlook for seeded area in 2019 could change, making it easier for the world to avoid a potential shortage in available supplies of peas.

Globally, residual supplies of peas are expected to be similarly low, with the result markets would be expected to have a hard time dealing with unexpected demand before the 2019 harvest.



General Outlook

While the livestock feed sector attracted a lot of attention in 2018, demand for peas and other pulses from the fractionation and pet food industries is expected to continue to grow. Here, the emphasis will be on protein levels, which could see farmers in some countries paid premiums for protein and efforts by some sellers to sell on that basis.

Fractionation plants in China, Canada, the United States, and elsewhere prize the protein in peas.

Though high valued, protein isolate exports are small but growing. This is reflected in imports by the United States. In 2015, they totaled just 78 metric tons. The following year it jumped to 339 metric tons and almost quadrupled to 1,173 in 2017. Imports will be up sharply again this year. Between January and August year over year shipments jumped from 802 to 1,116 metric tons.

Imports are not broken down by type, but it is reasonable to believe that they will keep rising as long as new fractionation plants are being built in Canada. At a minimum, these plants separate peas into protein, starch and fiber fractions.

The plants and processes are not cheap, but it appears that the protein fraction is the most valuable. The averaged declared value of protein isolates imported by the United States was over \$11,000 per metric ton in 2015, but has dropped to \$5,908 so far this year. Falling values reflect a shift from retail ready products to bulk shipments to the food industry, with some market participants saying pea protein is worth around \$1800 per metric ton.

Protein levels in peas never seemed important in the past. The lack of interest is reflected in the fact that average protein levels have been trending lower. They averaged 23.4% between 2007 and 2009, but have fallen to 22.7% in the most recent five year period. Under the Canadian Grain Commission's (CGC) voluntary harvest sample program, farmers have so far sent 475 samples of peas. Protein content is up slightly this year, ranging between 16.8% and 30.5%, with the average coming in at 23.1%. It should be noted that there is a not a strong relationship between protein content and

grade.

The fractionation industry wants peas with higher average protein, while some pet food manufacturers would like minimum guarantees. By and large, however, no one has been willing to pay for protein.

The industry is trying to solve the problem in several ways. Some are developing proprietary pea varieties with higher protein and/or other properties. When they are finally released, they will surely be grown under production contracts which require farmers to deliver 100% of their production.

Over the short term, some already test for protein and pay premiums. This has irritated a few companies for two reasons. Some farmers report the price without explaining they were paid for protein. More significantly, virtually all importers of whole or split peas buy them because they are almost always the cheapest pulse. Few would pay a premium for protein and few exporters will risk selling with minimum guarantees.

Unlike wheat, there is not yet an agreed standard for measuring protein. As a result not many companies test for protein. More importantly, some in the fractionation industry are not sure the method used by the Canadian Grain Commission is accurate.

The implication is the seller and buyer could get different results from tests. The larger the shipment the greater the risk unless peas are segregated by protein content in processing plants and the bulk handling system.

The market for pea protein is growing. Unfortunately, the trade association, Protein Industries Canada, suggests there is not even fractionation capacity to meet the needs of the domestic market, let alone the export potential. Food companies have had good results with meat substitutes based on peas and lentils, but some stopped making the products because they could not reliably source the ingredients.

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The implication is that demand for high protein peas is going to keep growing. But, without an incentive, farmers are not going to do all they can to meet the needs of this sector. Protein premiums will help. Understanding the impact of climate and agronomic practices on protein levels is also critical. New varieties should help raise average protein levels. But some of the benefits could be lost unless farmers know how their agronomic practices and climate impact protein content.

Clearly, the versatility of field peas and efforts to create new types of demand reflect the fact it is almost always the most economic and readily available pulse. Similar efforts are underway with chickpeas, but production tends to be unusually volatile. Record high prices in 2017 encouraged a massive expansion in chickpea plantings in Canada and the United States.

However, as growers prepared to harvest the crop they were offered record low prices by processors and exporters. This is expected to result in a massive reduction in seeded area in 2019 in several countries.

Prices will start to recover as the depth of the decrease becomes obvious, but residual supplies of chickpeas may be high enough to prevent a significant recovery in price unless seeded area remains low in 2020. It is possible lower average prices will encourage alternate uses of chickpeas, but the experiences of farmers this season could make it harder for new users to reliable source supply.

Production trends also look negative for lentils. There was a massive increase in green lentil production this year because of last season's high prices, while land in red lentils dropped because returns were not competitive with green lentils and other crops.

So far during the 2018-19 marketing campaign, potential gross returns from all classes of lentils are down relative to wheat, durum, barley and canola. They are down relative to last year and the recent three year average. There is a strong relationship between current and the previous three year average gross return for lentils.

When the gross income potential of lentils in the current season drops relative to its recent three average, seeded

area generally declines. When it rises, seeded area generally rises. This happens 85% of the time with red lentils, 75% of the time with large green, but only 46% of the time with small green and 54% of the time with medium green.

Lentil production in Canada is dominated by red and large green, with small and medium tending to fill niche demand, with surplus stocks sometimes going to the Indian subcontinent, where some millers substitute it for tur dal.

As with peas and chickpeas, new markets are developing. Lentils are finding their way into pet and human food products. As with other pulses, there was a cascade of new product introductions during the International Year of Pulses. That reflected not only increased attention, but prior market development efforts by several companies, including the construction of specialized food laboratories where invited food manufacturers could test recipes. New products continue to be introduced, though some companies have withdrawn offerings because of difficulty sourcing the pulses they are using in their recipes.

Clearly, the future demand potential for pulses is greater than currently seen. Floor prices exist in the case of the livestock food industry. Innovation is slowly happening with respect to rewarding farmers and other market participants for protein levels. All of these efforts would be expected to increase the overall value of pulses on world markets and create a foundation for higher average production levels.

Prior to the green revolution, global pulse consumption averaged 7.43 kilograms per person and provided 6.8% of dietary protein. Usage reached a low of 5.99 kilograms per person between 1991 and the year 2000, but started to rise in the following decade. Data for the current decade is incomplete, but that trend has remained in place. For a country like India, these trends increase price risk because when its import needs rise, it will face increased global competition for exportable surpluses.

When the gross income potential of lentils in the current season drops relative to its recent three average, seeded area generally declines. When it rises, seeded area generally rises.



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Mixed Pulses Nutrients

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The Food and Agriculture Organization of the United Nations (FAO) defines pulses as dry-harvested leguminous crops, which include several varieties of beans, peas, lentils, and chickpeas. Pulses do not include legumes with high levels of fat/oil or moisture at the time of harvest, such as soybeans and peanuts, or fresh beans and peas. Simply put, all pulses are legumes, but not all legumes are pulses. According to the FAO, pulses represent an important component of healthy diets [1]

Pulses, constitute the most common source of non

-cereal protein in India, where the pulse consumption is higher than that of any other protein source. Among Indian consumers, pulses contributed nearly 10 percent of the protein consumed, since most of the Indian population is vegetarian.

The FAO acknowledges 11 principal pulses: dry beans (e.g., kidney, lima, adzuki, butter, mungo, black gram, scarlet runner, and golden beans), dry broad beans (e.g., horse, broad, and field beans), dry peas, chickpeas (including garbanzos), dry cowpeas (including black-eyed peas/beans), pigeon peas, lentils, bambara beans,

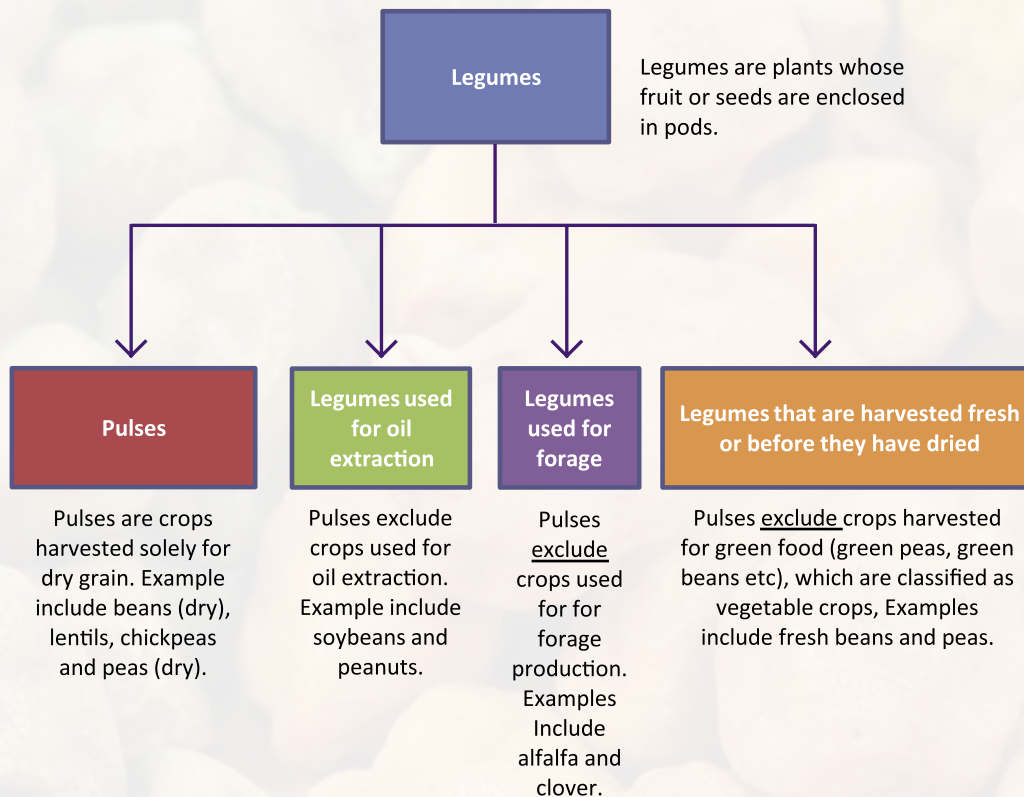


Table No 1 [2]



General Outlook

vetches, lupins, and minor pulses (jack, winged, sword, guar, velvet, and yam beans) [4]

The mainly grown pulses in India include mungbean (green gram), chickpea (Bengal gram), urd bean (black gram), lentil (masur), pigeon pea (arhar), cowpea, horse gram and peas[1]

Pulses developed as a member of both the protein and vegetable food groups as a result of its high content of plant-based protein and dietary fiber. The last two revisions of the Dietary Guidelines saw the transformation from the MyPyramid “meat and beans group” to the MyPlate “protein foods group,” a nutrient name rather than a food source [4]

Serving Size of Pulses:

In India, the Dietary Guidelines for Indians—A Manual (2010) specifies 30g of uncooked pulses as a serving and suggests that 30 g and 60 g of whole uncooked pulses be consumed daily by non-vegetarians and vegetarians, respectively [7]

Health Benefits of Pulses

- With a low glycemic index, low fat and high fibre content, pulses are suitable for people with diabetes. Pulses increase satiety and help to stabilize blood glucose and insulin levels by reducing spikes after eating and improving insulin resistance making pulses an ideal food for weight management.
- Pulses may reduce the risks of coronary heart disease. They are high in dietary fibre, which is well known for reducing LDL cholesterol, a recognized risk factor in coronary heart disease.
- Pulses are good sources of vitamins, such as folate, which reduces the risk of neural tube defects (NTDs) like spina bifida in newborn babies.
- Pulses' high iron content makes them a potent food for preventing iron deficiency anaemia in women and children especially when combined with food containing vitamin C to improve iron absorption.
- Protein quality matters, particularly for growth and development. The protein quality of vegetarian diets and plant-based diets is significantly improved when pulses are eaten together with cereals.
- Pulses are gluten-free hence a great inclusion for people with gluten enteropathy/intolerance
- Pulses are rich in bioactive compounds such as phytochemicals and antioxidants that impart anti-

cancer properties.

- Pulses promote bone health.
- Phytoestrogens may also prevent cognitive decline and reduce menopausal symptoms. [3]

Nutritional Profile of Pulses

Macronutrients in pulses

Carbohydrates (55%–65% of the total weight), mainly starches, and proteins (usually 21%–26%), including essential amino acids, and low in calories and fat (1%–4%). Pulses are very low in fat when compared with oilseeds, such as soybean, canola, and flax; they are beneficial sources of mono- and polyunsaturated fat and contain plant sterols.

Pulses typically contain about twice the amount of protein found in whole grain cereals.

Pulses contain approximately 21–25% protein;

Pulses are abundant in the essential amino acids lysine (64 mg/g of protein) and threonine (38 mg/g of protein), however have limiting amount of essential amino acids such as methionine, tryptophan and cystine[4]. Since pulses are lacking in these essential amino acids, they are considered to be lower quality sources of protein. Therefore, it is recommended that pulses be consumed in conjunction with other plant-based and/or animal protein sources that contain the limiting essential amino acids to form a meal or diet containing a high-quality protein [4]

Pulse proteins are classified into two major fractions viz albumin and globulin. Globulins are the major storage proteins in pulse seeds constituting 35–72% of total protein and the remaining protein fraction mainly consists of albumins. Globulin proteins have higher amount of glutamine, aspartic acid, arginine and lysine[6]

Among the major classes of protein in pulses, albumins are unique due to their solubility in water. Because of solubility, albumins are capable of interacting and competing with starch for water. [6]

Pulses contain a high carbohydrate content (50–65%) and 22–45% of pulse grain weight from starch, depending on the source, cooking, and processing. Slowly digestible starches, resistant starches, protein content, and the protein–starch matrix attribute to the low glycemic index (GI) of pulses.

Nutritional composition of various pulses per 100 g (8)

Food Code	Food Name	No. of Regions	Moisture	Protein	Ash	Total Fat	Dietary Fibre			Carbohydrate	Energy				
							Total	Insoluble	Soluble						
							← g →						KJ		
							WATER	PROTCNT	ASH			FATCE	FIBTG	FIBINS	FIBSOL
B	GRAIN LEGUMES														
B001	Bengal gram, dal (<i>Cicer arietinum</i>)	6	9.18±0.58	21.55±1.45	2.10±0.10	5.31±0.06	15.15±0.17	12.67±0.22	2.48±0.15	46.72±1.29	1377±10				
B002	Bengal gram, whole (<i>Cicer arietinum</i>)	6	8.56±0.37	18.77±0.42	2.78±0.13	5.11±0.11	25.22±0.39	22.70±0.60	2.52±0.87	39.56±0.16	1201±9				
B003	Black gram, dal (<i>Phaseolus mungo</i>)	6	9.16±0.35	23.06±0.59	3.17±0.02	1.69±0.12	11.93±0.26	7.58±0.13	4.35±0.15	51.00±0.80	1356±9				
B004	Black gram, whole (<i>Phaseolus mungo</i>)	6	8.70±0.33	21.97±0.63	3.35±0.03	1.58±0.06	20.41±0.06	15.47±0.05	4.94±0.07	43.99±0.76	1219±5				
B005	Cowpea, brown (<i>Vigna catjang</i>)	6	9.42±0.39	20.36±0.59	2.90±0.11	1.15±0.06	11.54±0.13	8.75±0.09	2.80±0.05	54.62±0.49	1340±7				
B006	Cowpea, white (<i>Vigna catjang</i>)	1	9.32	21.25	2.83	1.14	11.70	8.91	2.79	53.77	1340				
B007	Field bean, black (<i>Phaseolus vulgaris</i>)	1	9.57	19.93	2.73	0.92	23.40	17.99	5.41	43.46	1155				
B008	Field bean, brown (<i>Phaseolus vulgaris</i>)	1	8.74	19.90	2.74	0.98	22.40	17.32	5.08	45.24	1184				
B009	Field bean, white (<i>Phaseolus vulgaris</i>)	5	8.61±0.36	19.84±1.04	3.09±0.15	0.94±0.02	22.99±0.83	17.45±2.27	5.54±2.28	44.53±1.42	1173±24				
B010	Green gram, dal (<i>Phaseolus aureus</i>)	6	9.77±0.67	23.88±0.61	3.04±0.03	1.35±0.20	9.37±0.38	7.75±0.39	1.62±0.19	52.59±0.45	1363±10				
B011	Green gram, whole (<i>Phaseolus aureus</i>)	6	9.95±0.42	22.53±0.43	3.22±0.04	1.14±0.17	17.04±0.38	14.59±0.42	2.44±0.15	46.13±0.64	1229±10				
B012	Horse gram, whole (<i>Dolichus biflorus</i>)	6	9.28±0.57	21.73±0.29	3.24±0.11	0.62±0.04	7.88±0.02	6.22±0.03	1.66±0.03	57.24±0.50	1379±9				
B013	Lentil dal (<i>Lens culinaris</i>)	6	9.71±0.48	24.35±1.10	2.23±0.13	0.75±0.04	10.43±0.39	8.60±0.42	1.83±0.23	52.53±1.05	1349±11				
B014	Lentil whole, brown (<i>Lens culinaris</i>)	6	9.20±0.77	22.49±0.58	2.39±0.35	0.64±0.02	16.82±1.30	14.16±1.33	2.66±0.42	48.47±1.12	1251±23				
B015	Lentil whole, yellowish (<i>Lens culinaris</i>)	2	9.75	22.87	2.20	0.61	16.66	14.15	2.51	47.91	1246				
B016	Moth bean (<i>Vigna aconitifolia</i>)	6	8.14±0.49	19.75±0.38	3.14±0.18	1.76±0.09	15.12±0.49	14.50±0.44	0.62±0.10	52.09±0.96	1291±16				
B017	Peas, dry (<i>Pisum sativum</i>)	6	9.33±0.61	20.43±0.79	2.41±0.09	1.89±0.08	17.01±0.63	14.55±0.73	2.47±0.17	48.93±0.45	1269±13				
B018	Rajmah, black (<i>Phaseolus vulgaris</i>)	2	8.69	19.01	3.35	1.62	17.74	15.16	2.58	49.59	1247				
B019	Rajmah, brown (<i>Phaseolus vulgaris</i>)	6	9.68±0.79	19.50±0.84	3.36±0.19	1.68±0.07	16.95±0.27	14.33±0.19	2.62±0.16	48.83±0.59	1245±12				
B020	Rajmah, red (<i>Phaseolus vulgaris</i>)	3	9.87±0.30	19.91±1.44	3.28±0.21	1.77±0.04	16.57±0.63	13.86±0.43	2.70±0.20	48.61±0.65	1252±14				
B021	Red gram, dal (<i>Cajanus cajan</i>)	6	9.20±0.61	21.70±0.50	3.26±0.03	1.56±0.03	9.06±0.30	6.67±0.23	2.39±0.15	55.23±0.83	1384±10				
B022	Red gram, whole (<i>Cajanus cajan</i>)	6	9.30±0.45	20.47±0.72	3.53±0.03	1.38±0.08	22.84±0.43	19.69±0.30	3.15±0.34	42.48±0.77	1146±10				



NOTE: Data derived from Indian Food Composition Table (IFCT), National Institute of Nutrition, 2017.

Micronutrients in Pulses

Pulses also contain significant amounts of micronutrients, namely minerals, water-soluble and lipid-soluble vitamins, and healthy lipids such as polyunsaturated fatty acids [5] Pulses are particularly rich in folate, iron, calcium, magnesium, zinc and potassium.

In addition, pulses are good sources of bioactive components that are not considered as nutrients and typically occur in small quantities (when compared with macronutrients), but otherwise exert beneficial metabolic effects on the human body upon consumption in physiological conditions. These non-nutrient food constituents vary in concentration amongst different pulse species and varieties, and include non-digestible carbohydrates (soluble and insoluble dietary fibres, resistant starches and oligosaccharides) and bioactive phytochemicals, mainly polyphenols and phytosterols[5]

Soaking and Sprouting -For Added Health and Nutrition;

In many Western cultures, pulses are considered “a poor man’s food” or “protein for the poor.” In truth, raw pulses also contain anti-nutrients, mainly phytates and tannins, which can reduce the intestinal absorption of minerals, such as iron and zinc. Furthermore, some non-digestible carbohydrates found in pulses can cause bloating and flatulence, and, not least, pulses require a much longer cooking time than vegetables. Soaking dried pulses in water for 4–8 h as well as sprouting and fermentation reduce their anti-nutrient content, cooking time, and propensity to cause flatulence. Therefore, soaking ensures that pulses can be more easily digested, and their nutrients better absorbed by the gastrointestinal tract. Moreover, when pulses are combined with other foods, particularly grains, their nutritional value is further enhanced. In fact, the proteins of pulses are high in lysine and low in sulfur-containing amino acids, whereas the proteins of cereals are low in lysine but high in sulfur-containing amino acids. Combining them provides a higher protein quality, as it occurs in many traditional dishes.[5]

Pulses are less acceptable due to the presence of typical flavor, which is sometimes considered as off flavor by many people, that is inherent/produced during harvesting, processing and storage Generally, volatile off-flavor compounds in pulses belong to the categories of aldehydes, alcohols, ketones, acids, pyrazines and

sulfur compounds. The off-taste also has been associated to the presence of saponins, phenolic compounds and alkaloids.

The inherent off-flavor imparting chemicals in pulses are modified or eliminated during processing. The development of off-flavor can be diminished by implying appropriate processing to the pulses [6]

Nitrogen Fixing Property of Pulses.

Besides their beneficial nutritional profile, pulses also play an important role in cropping systems. They do not require nitrogen fertilizers because of their nitrogen-fixing properties, so they increase soil fertility. These plants are deep rooted and require less water than other crops to grow so pulses can tolerate environmental conditions such as drought and can grow in dry lands where the majority farmers are poor and are unable to cultivate other crops. Therefore, these protein-rich plants can be cultivated in areas where meat, dairy, and fish are unavailable or too expensive [5]

Conclusion

Pulses contain a nutrient-dense profile, which offers many health benefits for consumers such as beneficial effects of pulses on cardiovascular health, diabetes, and obesity. Culinary education may increase legume consumption, resulting not only in beneficial dietary impacts but also environmental impacts. Increased consumption of plant-based protein from pulses could help decrease the carbon footprint associated with animal-based proteins.

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Changing market dynamics in world pulses market and challenges being faced

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India is the world leader in production, consumption as well as imports of pulses, thus rightly known as the head quarter of the world's pulses trade. In recent years, changes in fundamental factors as well as trade policies have had direct impact on Indian as well as global pulse traders who are dealing with India to market their produce. Apart from supply and demand fundamentals of pulses, uncertain weather and currency's price volatility and very recent global trade war has impacted pulses market in a positive as well as negative way. Events like Demonetization of high denomination currency and implementation of Goods and Service Tax (GST) also disturbed the price seasonality movement, thus impacting the equilibrium of the market.

Indian pulses market dynamics has been on roller coaster ride in recent years. In the span of 4 years prices have not only touched all time high levels but collapsed to multiyear lows. As discussed above, the dynamics in driving prices involved supply and demand factors as well as external factors. Two consecutive seasons of crop failures in season 2014-15 and 2015-16 due to El-Nino weather phenomena resulted in prices of domestic pulses to touch new records. Due to all time high prices in the year 2016 for most of the pulses, the year will always be framed in memory of the traders across the globe. All time prices of most of the pulses also resulted in record imports in these years. On one hand it opened doors for many new nations to market their produce, and on other hand it also created the urge to be self-reliant in pulses production.

In order to encourage the farmers to produce pulses, the government intervened and introduced various policy changes. The incentive to farmer was in the form

of attractive minimum support prices, robust procurement which increased substantially in recent years, export incentives, hefty import duties along with restrictions in quantity of imports in some of the pulses were the changes introduced. Indian farmers responded positively to this by increasing land under pulses cultivation in recent years. However the major drawback which Indian farmers face when compared to farmer in Australia or Canada and other nations is that of the lack of awareness, land size and technology used in production of pulses as well as storage of pulses. Thus, despite the increasing trend of yield and production, the potential growth of yield has been low as compared

to these nations. Shortage of proper storage and handling facilities is also a major challenge faced by Indian farmers, traders as well as government agencies. Thus, impacting the optimum result of the various steps taken by the government to make the nation self-dependent.

Apart from India, Australia, Canada, US, Myanmar, African nations are some of the traditional global producers of pulses. However, supply crisis and the ever

increasing demand in India has encouraged the farmers across the globe to cultivate pulses. Along with these, many new Baltic and Middle East nations recently emerged as a pulses supplier to India. One important advantage that a farmer has in sowing of pulses is that, the rotation of pulses crop with other crops in the fields, helps to maintain the quality of soil. This makes it extremely difficult for the farmers to switch area from pulses by 100% to other crops. The shift in acreage to other crops would be gradual if not overnight considering the benefits of sowing pulses along with the potential of demand growth. Sharp revival of

Indian pulses market dynamics has been on roller coaster ride in recent years. In the span of 4 years prices have not only touched all time high levels but collapsed to multiyear lows.



General Outlook

production was together in domestic as well as various destinations across the globe, thus widening the supply glut.

Events like Demonetization of high denomination currency and implementation of goods and service tax (GST) took place in year 2016 and 2017 respectively. These historic events not only changed the immediate scenario but will have a long term impact on market functioning. Such events impacts the price seasonality in immediate context however it affects the traders morale for long run.

In order to bail out Indian farmers from burden of stocks and maintain production at higher levels for pulses, the government had to impose quantity restrictions on imports and slap hefty import duties. While this is serving the purpose of making the country self-reliant, sharp decline in imports has certainly impacted the morale of farmers in other nations as India is the largest consumer as well as importer of pulses in world. Thus if the country becomes self-sufficient in terms of production, global players will be left with very little scope for marketing for their produce. Impact of this would be that low preference would be given to pulses production by the global producers considering uncertainty of demand in India.

Pea and Chana are the major pulses which are imported in India. India imports nearly 75-85% of their annual pea requirement largely from Canada and to some extent from Russia and other nations. Pea imports in recent years have breached over 3 million tons. The 50% import duty has been a big blow to Canada for whom India is the biggest consumer. While it is true that the decision was by government authorities, the importers are the one who were at the receiving end of the frustration faced by the exporting nation. Interestingly, the ongoing trade war between US and China came in as rescue to the record pea supplies in Canada. China, for its feed requirements in pig industry was seen shifting to pea from soy meal in order to reduce its dependency on US. This move by China came in as a blessing to Canadian pea industry which was in supply glut after Indian government slapped the hefty import duty. One of the main features of Indian policies is that it is being reviewed within a short span of every 3 months, this disturbed the trade in a big way. This also had an impact on trade decisions of participants present across the value chain of the commodity.

The Indian government gave export incentives of 7% in 2018 to ease the supply glut. Despite this, Indian exporters struggled to create space in the market due

to lack of presence in recent years. In the year 2006, exports of most of the pulses were banned except for Kabuli Chana. Prior to this India had some share in world exports of pulses. Indian variety was well preferred by its taste and quality. However due to the ban in exports and regular supplies from other origins Canada, Australia and others established their space in the world market. These nations not only started producing, but also increased their milling capacities to cater the increasing demand for pulses.

Most of the population around the globe is non-vegetarian, except India this pulses form is very important source of protein in every day's diet. Considering the size of population, India is certainly the largest consumer of pulses. Experts believe that globally, the awareness and wellness is increasing regarding the vegetarian food habits. The new generation is more and more informed and health conscious. Thus various sources of protein and nutrition are being explored. This would increase the pace of demand growth in pulses segment as an important source of protein in next 5-10 years and this would be a crucial aspect to watch for.

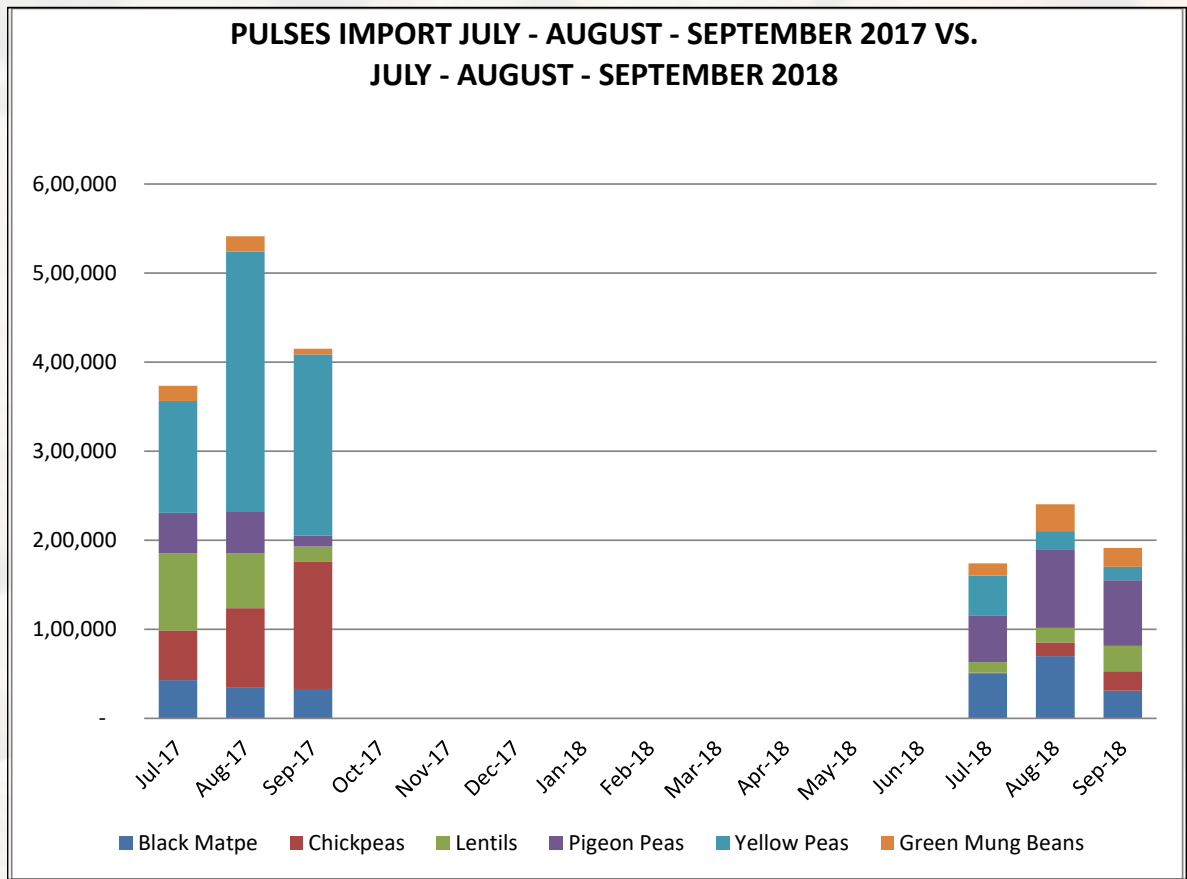
Market dynamics earlier was confined only to supply and demand fundamentals, but now many other external factors are involved when it comes to pulses especially. We can use the term volatile and unpredictable policy changes in Indian market would have a lasting impact in world. Counter party risk emerges due to high fluctuations in prices. The uncertain policy increases the price volatility and this increases the rate of default leaving trades dishonored many times. The urge of negotiations increases which does not go well with the counter party increasing discontent amongst them. This impacts the long term trade relations.

With the recent developments in India it gives a clear indication to the global players that India is trying hard to reduce dependency on imports. However, in this process one major risk is missed out and that is of weather. Pulses are extremely sensitive crop to weather thus one failed monsoon or any weather event during the crucial period of crop development or during the harvest would once again create a need for imports. While the natural factor like weather is not in one's hands, the decisions related to policies and tariffs are certainly in one's control. Like we say that "All that goes around comes around", is likely to be the impact of changing dynamics of pulses market in India!

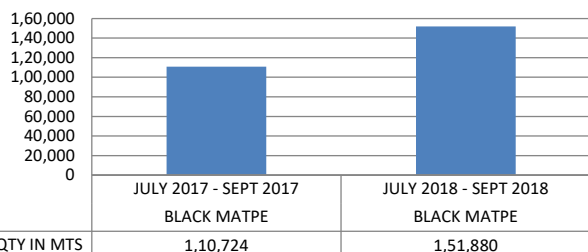


Pulses Import Statistics

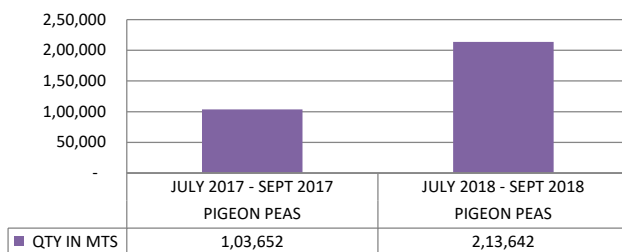
Nikita Chury
IPGA



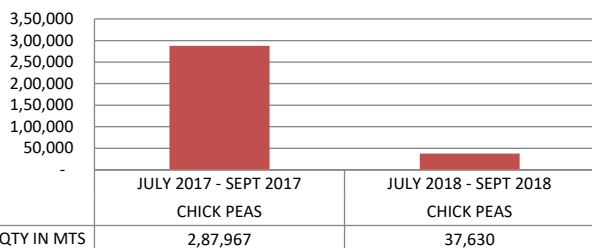
**BLACK MATPE JULY 2017 - SEPT 2017 vs.
JULY 2018 - SEPT 2018**



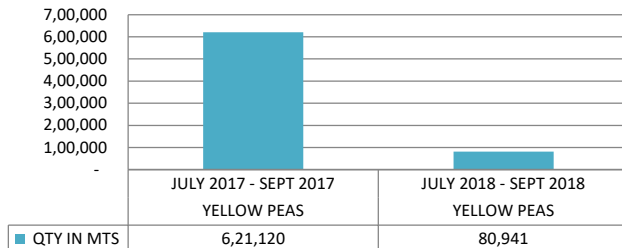
**PIGEON PEAS JULY 2017 - SEPT 2017 vs.
JULY 2018 - SEPT 2018**



**CHICK PEAS JULY 2017 - SEPT 2017 vs.
JULY 2018 - SEPT 2018**



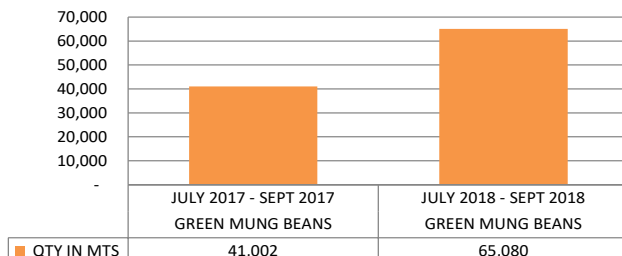
**YELLOW PEAS JULY 2017 - SEPT 2017 vs.
JULY 2018 - SEPT 2018**



**LENTILS JULY 2017 - SEPT 2017 vs.
JULY 2018 - SEPT 2018**



**GREEN MUNG BEANS JULY 2017 - SEPT 2017
vs. JULY 2018 - SEPT 2018**



Agricultural Statistics Division
Directorate of Economics & Statistics
Department of Agriculture, Cooperation and Farmers Welfare
First Advance Estimates of Production of Foodgrains for 2018-19

As on: 26.09.2018

Million Tonnes

Crop	Season	2017-18																	2018-19	
		2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	1st Adv.Est.	4th Adv.Est.	Targets	1st Adv.Est.	
		3	4	5	6	7	8	9	10	11	12	13	14	15	17	18	19	20	21	
Rice	Kharif	78.62	72.23	78.27	80.17	82.66	84.91	75.92	80.65	92.78	92.37	91.50	91.39	91.41	96.30	94.48	97.50	98.00	99.24	
	Rabi	9.91	10.90	13.52	13.18	14.03	14.27	13.18	15.33	12.52	12.87	15.15	14.09	13.00	13.40	15.41	15.41	15.00		
	Total	88.53	83.13	91.79	93.36	96.69	99.18	89.09	95.98	105.30	105.24	106.65	105.48	104.41	109.70	94.48	112.91	113.00	99.24	
Wheat	Rabi	72.16	68.64	69.35	75.81	78.57	80.68	80.80	86.87	94.88	93.51	95.85	86.53	92.29	98.51	99.70	99.70	100.00		
	Kharif	4.84	4.04	4.07	3.71	4.11	3.05	2.76	3.44	3.29	2.84	2.39	2.30	1.96	1.96	2.15	2.10	2.10	1.88	
	Total	1.84	3.20	3.56	3.44	3.81	4.19	3.93	3.56	2.69	2.44	3.15	3.15	2.42	2.60	2.85	2.80	2.80		
Jowar	Total	6.68	7.24	7.63	7.15	7.93	7.25	6.70	7.00	5.98	5.28	5.54	5.45	4.24	4.57	2.15	4.95	4.90	1.88	
	Kharif	12.11	7.93	7.68	8.42	9.97	8.99	6.51	10.37	10.28	8.74	9.25	9.18	8.07	9.73	8.66	9.13	9.50	7.77	
	Rabi	1.97	2.43	2.35	1.44	2.15	2.04	1.89	2.19	1.93	1.57	1.98	2.06	1.82	1.39	1.61	1.98	2.30	1.68	
Small Millets	Kharif	0.56	0.48	0.47	0.48	0.55	0.44	0.38	0.44	0.45	0.44	0.43	0.39	0.39	0.44	0.33	0.44	0.60	0.33	
	Kharif	19.48	14.89	14.58	14.05	16.79	14.42	11.54	16.44	15.95	13.59	14.06	13.93	12.10	13.52	12.76	13.64	14.50	11.66	
	Rabi	1.84	3.20	3.56	3.44	3.81	4.19	3.93	3.56	2.69	2.44	3.15	3.15	2.42	2.60	0.00	2.85	2.80		
Maize	Total	21.32	18.09	18.14	17.50	20.60	18.62	15.47	20.01	18.64	16.03	17.20	17.08	14.52	16.12	12.76	16.50	17.30	11.66	
	Kharif	12.73	11.48	12.16	11.56	15.11	14.12	12.29	16.64	16.49	16.19	17.14	17.01	16.05	18.92	18.73	20.24	19.80	21.47	
	Rabi	2.25	2.70	2.55	3.54	3.85	5.61	4.43	5.09	5.27	6.06	7.11	7.16	6.51	6.98	8.47	8.47	7.50		
Barley	Total	14.98	14.17	14.71	15.10	18.96	19.73	16.72	21.73	21.76	22.26	24.26	24.17	22.57	25.90	18.73	28.72	27.30	21.47	
	Rabi	1.30	1.21	1.22	1.33	1.20	1.69	1.35	1.66	1.62	1.75	1.83	1.61	1.44	1.75	1.77	1.77	2.10		
	Kharif	32.22	26.36	26.74	25.61	31.89	28.54	23.83	33.08	32.44	29.79	31.20	30.94	28.15	32.44	31.49	33.89	34.30	33.13	
Nutri/Coarse Cereals	Rabi	5.39	7.10	7.33	8.31	8.86	11.49	9.72	10.32	9.58	10.25	12.09	11.92	10.37	11.33	13.10	12.40	12.40		
	Total	37.60	33.46	34.07	33.92	40.75	40.04	33.55	43.40	42.01	40.04	43.29	42.86	38.52	43.77	31.49	46.99	46.70	33.13	
	Kharif	110.84	98.59	105.01	105.78	114.55	113.45	99.75	113.73	125.22	122.16	122.70	122.34	119.56	128.74	125.96	131.38	132.30	132.37	
Cereals	Rabi	87.45	86.64	90.21	97.30	101.46	106.45	103.70	112.52	116.98	116.63	123.09	112.53	115.66	123.24	128.21	127.40	127.40	109.9	
	Total	198.28	185.23	195.22	203.08	216.01	219.90	203.45	226.25	242.20	238.79	245.79	234.87	235.22	251.98	125.96	259.59	259.70	132.37	
	Kharif	2.36	2.35	2.74	2.31	3.08	2.27	2.46	2.86	2.65	3.02	3.17	2.81	2.56	4.87	3.99	4.25	4.50	4.08	
Gram	Rabi	5.72	5.47	5.60	6.33	5.75	7.06	7.48	8.22	7.70	8.83	9.53	7.33	7.06	9.38	11.23	10.50	10.50		
	Kharif	1.20	0.95	0.90	0.94	1.12	0.84	0.81	1.40	1.23	1.48	1.15	1.28	1.25	2.18	2.53	2.84	2.00	2.65	
	Rabi	0.27	0.38	0.35	0.50	0.34	0.33	0.42	0.36	0.53	0.47	0.55	0.68	0.70	0.66	0.73	0.80	0.80		
Moong	Total	1.47	1.33	1.25	1.44	1.46	1.17	1.24	1.76	1.77	1.95	1.70	1.96	1.95	2.83	2.53	3.56	2.80	2.65	
	Kharif	1.43	0.81	0.69	0.84	1.25	0.78	0.44	1.53	1.24	0.79	0.96	0.87	1.00	1.64	1.32	1.44	1.40	1.58	
	Rabi	0.28	0.25	0.26	0.28	0.27	0.26	0.25	0.27	0.40	0.40	0.65	0.64	0.59	0.52	0.57	0.70	0.70		
Lentil	Total	1.70	1.06	0.95	1.12	1.52	1.03	0.69	1.80	1.63	1.19	1.61	1.50	1.59	1.22	1.32	2.01	2.10	1.58	
	Rabi	1.04	0.99	0.95	0.91	0.81	0.95	1.03	0.94	1.06	1.13	1.02	1.04	0.98	1.22	1.22	1.61	*		
	Kharif	1.18	0.61	0.54	0.70	0.96	0.80	0.49	1.33	0.93	0.62	0.71	0.77	0.72	0.89	0.86	0.82	1.00	0.91	
Other Kharif Pulses	Rabi	1.44	1.32	1.36	1.37	1.19	1.28	1.28	1.33	1.34	1.60	1.51	1.74	1.50	1.77	1.76	3.10	3.10		
	Kharif	6.16	4.72	4.86	4.80	6.40	4.69	4.20	7.12	6.06	5.91	5.99	5.73	5.53	9.58	8.71	9.34	8.90	9.22	
	Rabi	8.74	8.41	8.52	9.40	8.36	9.88	10.46	11.12	11.03	12.43	13.25	11.42	10.82	13.55	15.89	15.10			
Total Foodgrains	Total	14.91	13.13	13.38	14.20	14.76	14.57	14.66	18.24	17.09	18.34	19.25	17.15	16.35	23.13	8.71	25.23	24.00	9.22	
	Kharif	117.00	103.31	109.87	110.56	120.96	118.14	103.95	120.85	131.27	128.07	128.69	128.06	125.09	138.33	134.67	140.73	141.20	141.59	
	Rabi	96.19	95.05	98.73	106.71	109.82	116.33	114.15	123.64	128.01	129.06	136.35	123.96	126.47	136.78	144.10	142.50			
Total	213.19	198.36	208.60	217.28	230.78	234.47	218.11	244.49	259.29	257.13	265.04	252.02	251.57	275.11	134.67	284.83	283.70	141.59		

* Included in Other Rabi Pulses.



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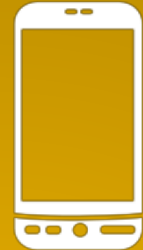
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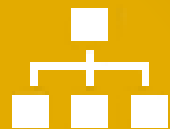
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STUFFED PEPPERS WITH CAVIAR LENTILS AND RICE

4 Serves 50min

INGREDIENTS

125 gr. - Caviar lentils
150 gr. - Long grain rice, cooked al dente
1 - Large onion, chopped
4 - Medium size peppers, red, yellow, green
4 - Slices of goat cheese
50 gr. - Grated cheese
25 ml. - Olive oil
Salt and pepper

PREPARATION

Soak the lentils for at least 4 hours. Discard soaking water. Place lentils in a saucepan with hot water and a pinch of salt. Simmer for about 30 minutes, until they are tender. Remove from the fire, discard water, set aside.

Grill the peppers for about 15 minutes. Remove from the oven and let them cool. Cut the top of them, discard the seeds.

Heat the olive oil in a pan. Stir fry the onion until it gets golden. Add the lentils and the cooked rice and mix.

Fill the peppers with the mixture. Place on top a slice of goat cheese. Bake for about 20 minutes. Cover with the grated cheese, grill until the cheese gets light golden. Serve.

SPINACH CROQUETTES WITH CHICKPEA FLOUR

4 Serves 50min

INGREDIENTS

50 gr. - Chickpea flour
200 gr. - Spinach, leaves
1/2 l. Milk, lukewarm
50 gr. - Butter
100 gr. - Grated cheese
25 gr. - Corn flour
Salt, nutmeg
Corn flour for coating
Olive oil for frying

PREPARATION

In a skillet melt the butter, add the chickpea flour and cook over a moderate temperature, stirring all the time for about two minutes.

In the bowl of a mixer place the roasted chickpea flour, grated cheese, milk, spinach, corn flour, salt and nutmeg. Make a purée. Pour in the skillet. Simmer for about ten minutes, stirring all the time, until it thickens. Place the croquette mixture into another recipient, cover with film and let it cool.

When the mixture is cold, take small portions, coat with the corn flour and shape them. Fry in abundant olive oil.

If you prefer you can use the traditional coating method: flour - egg - breadcrumbs, they will get a golden color.



CHERRY TOMATOES FILLED WITH CHICKPEAS AND CHEESE

4 Serves 25min

INGREDIENTS

400 gr. - Tomatoes "Cherry"
200 gr. - Chickpeas, boiled
100 gr. - Cream cheese
100 gr. - Roquefort cheese
2 Tbsp. - Olive oil
1 Tsp. - Cumin, ground
Salt
100 gr. - Grated cheese

PREPARATION

Cut the top of the tomatoes, discard the seeds. Place the prepared tomatoes on top of an oven tray brushed with olive oil. Pre-heat oven at 180°C.

In a food processor purée chickpeas, cream cheese, Roquefort cheese, olive oil, cumin and salt, to obtain a homogenous cream.

Fill the prepared tomatoes with the cream. Top with grated cheese.

Bake for about 15 minutes.

MANGO AND MARZIPAN ROLLS

6 Serves 120min

INGREDIENTS

100 gr - Force flour, 20 gr. - Fresh baker's yeast, 50 ml. - Warm water, 250 gr. - Cooked chickpeas
300 gr. - Force flour, 1 egg, 100 gr. - Butter, at room temperature, 50 gr. - Brown sugar

Filling

2 - Ripe mangoes cut into small and thin slices
400 gr. - Marzipan, 50 ml. - Milk, 100 gr. - Sugar glass

PREPARATION

In the warm water add the yeast together with a spoonful of sugar, leave a few minutes until a layer of foam forms. Sift the flour, reserve.

In the bowl of the mixer mix the yeast with 100 grams of flour to make the dough. Knead for five minutes. Transfer to a container covered with film and let stand until doubled in size.

Beat the chickpeas with the egg,

In the bowl of the mixer add the mixture of chickpeas, sugar, flour, dough, knead and add the butter. Knead for ten minutes. Cover the container with a film. Let it rest until it doubles its size.

Eliminate the air by crushing slightly. Divide dough into two parts. Stretch it with a roller, make rectangles of 20x30 cm. Pour cinnamon all over the surface. Cover the dough with a 0.5 mm marzipan strip. Through the widest part of the plate. Place the mango sheets, leaving one cm, on each side. Roll, using a knife to make slices, place the rolls in a baking dish, with the bottom covered with baking paper. Let stand until they double in size. Bake at 180°C, for about 20 minutes, or until a stick is inserted in the center, it comes out clean. Remove from the oven, brush with the mixture of milk and sugar glass.

Repeat the same process with the other half of the dough. Allow to cool completely. Unmold and serve.



INDIA PULSES AND GRAINS ASSOCIATION

Wishes

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2019**



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