



Are eggs healthier and more cost-effective than pulses?

Harish Garware, Executive Committee Member, Poultry India, talks to Progressive Grocer about the lack of proteins in the daily diet of most Indians, and how eggs are a wonderful alternative that can offer us the required protein intake, especially during inflation when it's difficult for the common man to purchase pulses, a rich source of proteins

By Manisha Almadi Midha

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—Harish Garware
Executive Committee
Member, Poultry India

Do the rising prices of pulses have Indians switching to eggs?

In the midst of malnutrition and protein deficiency, the country is also going through a rough phase with the rise in the prices of pulses, the staple for millions of Indians. The commonly consumed pulses such as tur and moong dal have almost doubled with tur dal even crossing Rs 200 a kg.

Consumption of protein-rich coarse grains and pulses has decreased significantly as they have become more expensive. How does one deal with this situation without losing on the protein intake? The simple solution is: switching to cheaper sources of protein, like eggs for instance. An egg, as a whole, has more nutrition than only egg white or egg yolk. Egg yolk has all the vital nutrients and half the protein of an egg. Studies recommend one whole egg daily for a healthy adult. One egg contains 333 mg of cholesterol, which is equivalent to one day's requirement.

Consumption data provided by the National Sample Survey Organisation (NSSO) shows a declining trend in the consumption of pulses, from 11.8 kg per person per year in 1987-88 to 8.4 kg per person per year in 2009-10. During this time, the consumption of eggs went up from 6 per year to 21 per year in rural India and from 17 to 32 in urban areas.

There is every reason to believe that Indians are switching to eggs. More so as the poultry sector in India is booming — the production of eggs went up from 30 billion in 1999-2000 to nearly 70 billion in 2012-13, according to Ministry of Agriculture data. The Indian poultry industry is worth about Rs. 1,00,000 crore and contributes 0.9 per cent to India's GDP.

Diets are changing in favour of proteins of animal origin. India is one of the world's top producers of hen eggs, ranking third behind China (first) and the U.S. (second) in 2011 (FAOSTAT). The Indian

poultry sector has seen a 7.3 per cent growth, and the high growth has placed India at fifth position after the U.S., China, Brazil and Mexico (CARI Vision 2030). Overall, Tamil Nadu accounts for maximum egg production in India (APEDA).

Also, going by the merit of protein, eggs are easily digestible, they are available, affordable and, most importantly, cannot be adulterated. But still there is a paradigm of selectivity based on eating habits and regional biases that we are trying to overcome through campaigns.

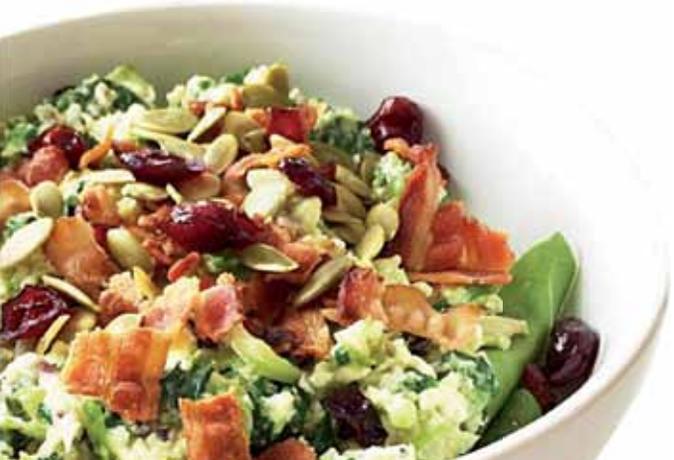
Lastly, not to forget that agriculture largely depends on the rainfall for its production and poultry sector could be the solution to India's hunger problem. We have several factors driving the recent growth of the poultry sector, viz. favourable climate which indirectly helps in low cost poultry housing, locally produced feed like corn and soybeans, low cost of labour, India's population: More than 50 per cent of India's current population is below the age of 25 and this age group is of high consumers. The gradual shift from vegetarian to non-vegetarian is slow but is mostly seen amongst the youth. (Source: News articles, GAVL analysis and IJMSS report on 'An analysis of opportunities and challenges in poultry sector in global and Indian perspectives')

How difficult has it become for the common man to purchase pulses during inflation?

From the present price structure of pulses it would appear that pulses are slowly becoming a very expensive proposition. What is the solution to this? We are happy that the government is taking steps to bring down the prices. From our point of view, eggs are a healthier and cost-effective option.

Can eggs make up for the proteins present in pulses?

Dal and beans offer protein and tend to be sources of several minerals like potassium and magnesium. On the downside, they offer only a moderate amount of protein. Digesting dal and beans is not easy, hence many experts recommend limiting its intake quantity for up to 50-60 grams per day. However, this gives you only 10-11 grams of protein per day, which is much less than the recommended daily



% INCREASE IN POULTRY, MEAT AND FISH CONSUMPTION

Data released by NSSO, a division of the Ministry of Statistics and Programme Implementation, show the following trends:



RURAL HOUSEHOLDS' DATA OBSERVED FROM 1993-94 TO 2011-12

| Years | Milk | Eggs | Fish Prawns | Goat Meat/ Mutton* | Beef/ Buffalo* | Chicken |
|---------|------|------|-------------|--------------------|----------------|---------|
| 1993-94 | 66.3 | 22 | 30.7 | 20.3 | 0 | 7.5 |
| 1999-00 | 67.8 | 29.3 | 33.6 | 20.3 | 0 | 13.8 |
| 2004-05 | 71.3 | 33 | 34.2 | 17.9 | 0 | 19.6 |
| 2009-10 | 76.4 | 27.1 | 28.2 | 7.2 | 3.9 | 16.6 |
| 2011-12 | 78 | 29.2 | 26.5 | 6.4 | 4 | 21.7 |

*Data for goat meat / mutton / beef / buffalo consumption was segregated from 2009-10 onwards.

URBAN HOUSEHOLDS' DATA OBSERVED FROM 1993-94 TO 2011-12

| Years | Milk | Eggs | Fish Prawns | Goat Meat/ Mutton* | Beef/ Buffalo* | Chicken |
|---------|------|------|-------------|--------------------|----------------|---------|
| 1993-94 | 80 | 34.9 | 27.1 | 28.3 | 0 | 9 |
| 1999-00 | 82.9 | 38.7 | 28.5 | 28 | 0 | 20.7 |
| 2004-05 | 85 | 41.2 | 27.8 | 25.2 | 0 | 27.8 |
| 2009-10 | 84.9 | 32.2 | 20.9 | 12.3 | 4.3 | 21.5 |
| 2011-12 | 84.9 | 37.6 | 21 | 10 | 5 | 27 |

*Data for goat meat / mutton / beef / buffalo consumption was segregated from 2009-10 onwards.

The rise is in line with other data over 19 years that show a clear shift towards protein-based food, even as the money that every Indian spends on food as a percentage of income has declined. Apart from beef, Indians are consuming more milk, eggs and chicken. Of these, chicken is most in demand. Egg consumption, too, has seen an increase. Change in income distribution and income levels that has taken place in India in recent years has led to the demand for protein-based food items such as pulses, eggs, milk and milk products and meat products, according to a 2013 study by the Ministry of Agriculture.

ABOUT POULTRY INDIA

Poultry India is a platform where Poultry India officials come together to spread the knowledge of the prevalence of high protein deficiency and malnutrition in India. Their all-India initiative is dedicated to educating people on the goodness of proteins, from any source, vegetarian or non vegetarian and the important role proteins play in supporting day-to-day health, fitness and general well-being. The 'Protein Awareness' campaign and its sustaining theme 'Eat Right, Eat Healthy,' is to educate people on how much protein their body needs, depending on their daily activities and body weight. Poultry India is a platform to display, developments and thinking for the improvement of the industry. It is a wide forum with information about poultry industry, feed equipment's technology, breeders, egg farming, poultry nutrition, animal health and international poultry production. It offers latest advances in poultry research, science and technology like cages and feed milling importance. It also offers advanced knowledge and understanding of the poultry industry via scientific forums and trainings in the poultry industry.

CURRENT PRICE OF SOME POPULAR VARIETIES OF PULSES AND POULTRY

At current prices, eggs and chicken certainly look cheaper than the popular pulses. This has resulted in the rising demand for eggs.



| Item | Weight in grams | Commodity price (Rs approx.) |
|------------|-----------------|------------------------------|
| Egg | 100 (2 eggs) | 10 |
| Chicken | 100 | 18 |
| Mutton | 100 | 45 |
| Fish | 100 | 32 |
| Urad dal | 100 | 16 |
| Masoor dal | 100 | 16 |
| Moong dal | 100 | 15 |
| Tur dal | 100 | 21 |
| Chana dal | 100 | 12 |
| Rajma | 100 | 20 |
| Chickpeas | 100 | 18 |



protein intake of one gram for every kilogram of body weight, like Poultry India says in its nationwide 'Protein Awareness' campaign.

If one were to get the protein needs from dal alone you would have to consume a huge amount of dal and beans. They contain 25 per cent protein and approximately 50 per cent starch or high carbohydrate content, which explains why they're so hard to digest. Also, beans are rich in protein and starch (requiring different digestive environments and enzymes) and this can make thorough digestion more difficult. While its protein is being digested, starch lies in the stomach and ferments, producing gas and toxins and making one feel bloated and uneasy. Going by the merit of protein, eggs are easily available, digestible, affordable and, most importantly, cannot be adulterated. They contain one of the highest quality proteins found in nature.

Recommended protein intake for an adult

Do Indians suffer from protein deficiency? According to the World Health Organisation (WHO) survey, Indians consume only 37 grams of protein a day which is a mere half of the requisite protein intake that is averaged in the West. A person must consume at least 0.8-1 gram of protein per kilogram of bodyweight per day. According to 'Protein consumption in diet of adult Indians' survey (PRODIGY) published in India 80 per cent of all Indians are protein deficient. The survey was conducted in seven major Indian cities among 1,260 respondents and concluded that as many as 91 per cent vegetarians and 85 per cent non-vegetarians are deficient in proteins. One of the key symptoms of lack of proteins is weakness and fatigue. The epidemic of lifestyle diseases – obesity, diabetes, hypertension and high triglyceride levels in urban India can also be addressed if Indians increase their dietary protein intake, the survey said.

By 2030, India will be home to 1.6 billion people, which means that the overall demand for food will be much higher. Furthermore, while there are many poor in India (roughly 60 per cent of the population), there are also some very rich people, along with a rapidly rising middle class. Incomes have been rising by seven to eight per cent. Hence there is greater demand not just for more food, but also for better quality food. **PG**