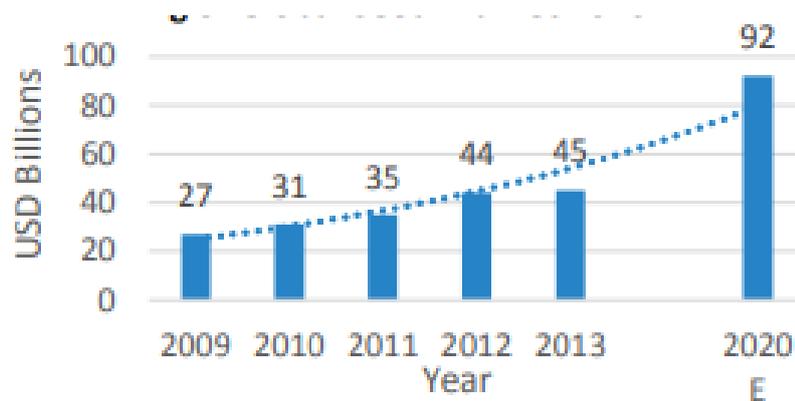


## Market Intelligence Report: Vegetable Seeds

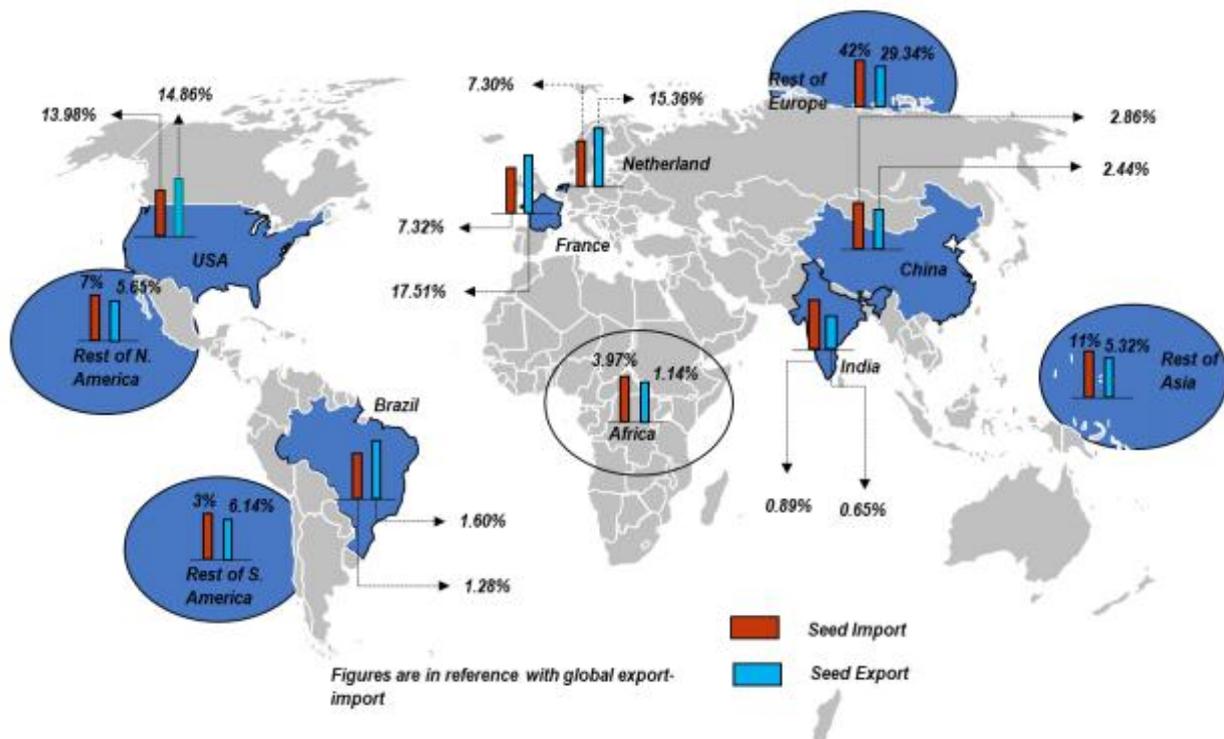
International Seed Federation (ISF) estimates that global seed market is expected to grow at an annual growth rate of 9.4 per cent over the next 5 years. Global commercial seed market has been predicted to reach USD 92 Billion by the year 2020, driven primarily by the increasing demand for food in tandem with the growing global population, rising standards in global farming, and extensive use of biotechnology in seed development. In last 10 years, global seed industry has grown by almost 100 per cent reaching \$ 45 billion and is poised to see the same growth by 2020.

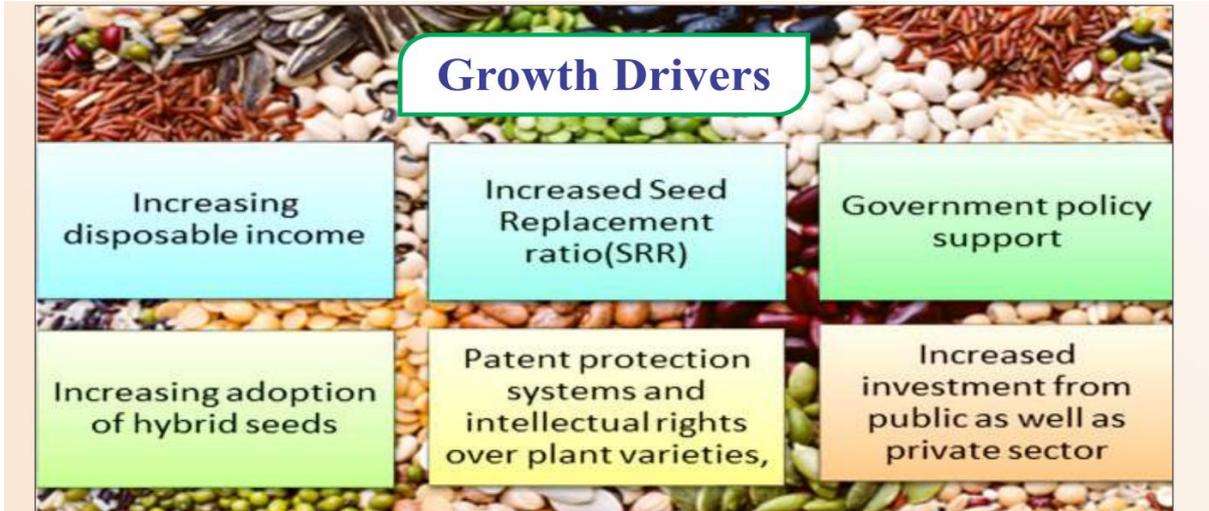
### Global Seed Market 2020



Source: ISF and Sathguru Analysis

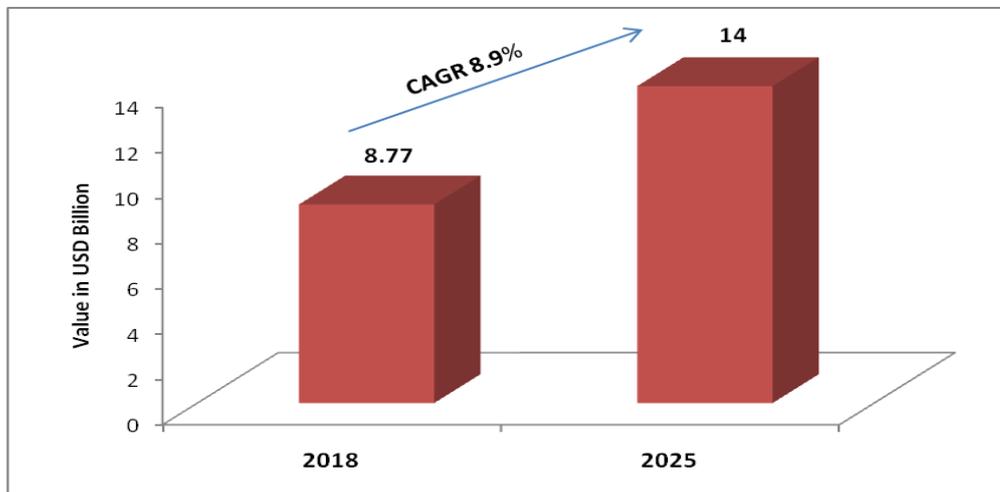
### Major Export Import Markets





## Vegetable Seed Market

The Global Vegetable Seeds Market is estimated to be valued at USD 8.77 billion in 2018 and is projected to reach USD 14.00 billion by 2025, at a CAGR of +8.10% from 2019.



Globally, North America accounts for the largest market share of Solanaceae Vegetable Seeds Industry and is estimated to lead the overall market in the years to come. The reason being, maximum species are found in this region. The United States is the major consumer of the market in this region. Europe and Asia Pacific follow the suit. On the other hand, Asia Pacific is estimated to grow at fastest pace in the years to come.

Market growth can be explained by factors such as the growing demand for food products, innovative production methods, supply of new products and the emergence of agricultural modernization.

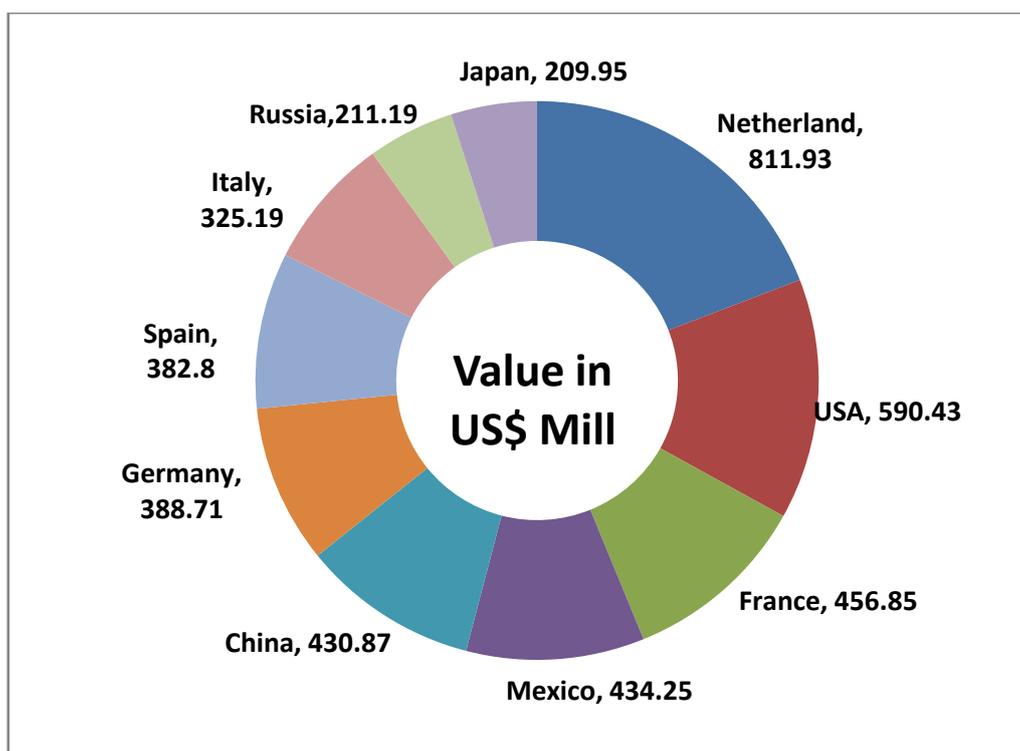
Increasing health consciousness among consumer and growth in the food Industry is driving the Hybrid Vegetable Seeds Market

The increasing global population is leading to hike in the demand for vegetables which a major reason for commercial seed growers constantly investing in production facilities which focuses mainly on the quality and sustainability of hybrid vegetable seeds.

Other Factors influencing the growth of Vegetable seed market:

- Consumers demanding food items which contains higher nutritional properties and increased health benefits.
- Declining arable land, diversification of diets, technology-driven agriculture, and changing weather patterns in developing countries are some of the major factors in fuelling the growth of hybrid vegetable seeds in the market.
- With the use of hybrid vegetable seeds, vegetables can be prevented from major diseases and pests.

### Top Vegetable Seeds Importer Countries



Netherlands is the highest importer of vegetable seeds worth 811.93 Mill USD, followed by USA (590.43 Mill USD), and France (456.85 Mill USD). [Source: Comtrade]

## **Global Stories on Seeds**

### **USDA restricts tomato, pepper imports after finding highly virulent virus**

**Since it was first discovered in Israel in 2014, the virus has spread to China, Mexico, Germany, Italy, Greece, the United Kingdom, Jordan, Turkey and the Netherlands.**

**Tomato and pepper seeds, plants or fruits from countries known to have tomato brown rugose fruit virus must be "officially tested and certified free of the disease" before they may enter the United States.**

#### **USA**

- The United States is the largest vegetable seeds market in the North American region. Vegetable growers in the United States are mostly small land holding individual farmers, who grow vegetables in less than 15 acres of land. Around 33% of vegetable growers are small farmers and only 9% of farmers have large vegetable fields and can sell vegetables worth USD 500,000 per year.
- Over the years, the proportion of fruit and vegetables in the American diet remained fairly stable between 25 and 30 percent

#### **FRANCE**

- France's competitive advantage in seed production is due to soil and climate conditions, in favour to the production of many species, to the know-how and investment in specialised equipment made by farmers and companies, and to the structuring of the sector.

## **SOUTH AFRICA**

- Poorly distributed rains and drought conditions will lead to production losses during the main harvest for smallholders in parts of Malawi, Mozambique, Madagascar and Zimbabwe.
- Cumulative rainfall for the 2019/20 season is expected to be below average in southern and central areas of the region with the greatest risk over the maize triangle of South Africa, Zimbabwe, and southern Mozambique.

## **China**

- The Chinese are without a doubt the largest consumers of fresh produce. In 1961, 62 percent of the daily intake consisted of fruit and vegetables. Chinese people still eat lots of vegetables: 56 percent of the daily intake. Especially vegetables were significantly more consumed and make up 39 percent. Fruit consumption rose to 9 percent.
- China is the second largest market for planting seeds after the United States.
- Farmers, faced with growing vegetable consumption and limited land, are looking for ways to increase yields. This in turn is generating demand for high quality seeds, including foreign varieties. Italy, Denmark, Thailand supplied 54 percent of China's vegetable seed imports.
- The new Seed Law excludes all vegetables from variety registration, which may accelerate commercialization of vegetable varieties. Some vegetables were previously defined as major crops in certain provinces, such as cabbage in Shandong province and pepper in Hunan province, and were therefore subject to variety registration requirements.

## **Chile**

- Strong support by the Chilean government, free trade agreements, and minimal-tariff access to multiple international markets lend Chile notably numerous comparative advantages in the seed sector.
- The country exported \$338.5 million worth of seeds in 2016-17; one-fifth of it was genetically modified.
- An advantage for the seed business in Chile is that the seasons there are opposite to those in Europe.

## Netherlands

- Seed Valley is a region in the Netherlands i.e. the global center for plant breeding and seed technology. Half the world's largest seed companies are in Seed Valley.
- Over the last decade, sales have increased by seven percent annually. This growth is continuing. The latest survey shows that sales will increase by an average of 5% in the coming years. This totals more than €1.4 billion.
- The companies in Seed Valley spend, on average, 14% of their revenue on research and new technologies. This is necessary to develop varieties that have high yields. The plants from these seeds must also be disease resistant and the vegetables must taste better.

## Israel

- Every year, Israel exports more than \$2 billion worth of produce – tomatoes are its fourth-largest commodity – and is among the world's top developers of better-looking, better-tasting, disease-resistant and more nutritious varieties.
- The Black Galaxy tomato was introduced to international markets in early 2012 but had already won high acclaim in its native Israel. The dark salad staple was developed by Technological Seeds DM using a pigment derived from blueberries. Black Galaxy not only looks exotic but also contains higher concentrations of vitamin C than garden-variety tomatoes.

## India's position against competing players in potential destinations

Importing Country	Exporting Country	% share in total import	CIF	Duty	FLP
Netherlands	USA	17.8	55974	4.8	58661
	France	15.6	50319	0	50319
	Chile	7.6	195495	0	195495
	Peru	6.1	532862	0	532862
	Italy	5.8	59717	0	59717
	India	4	138926	1.6	141149
USA	Netherlands	20.1	49260	0	49260
	China	14.6	17613	0	17613
	Chile	11.8	103976	0	103976
	France	7	87809	0	87809

	Denmark	6.3	15527	0	15527
	India	5.7	15230	0	15230
Mexico	USA	21.2	99439	0	99439
	Thailand	13.4	3898923	0	3898923
	Netherlands	11	3474167	0	3474167
	China	10.3	64852	0	64852
	Chile	7.7	569608	0	569608
	India	4.9	1844300	0	1844300
Spain	Netherlands	59	81694	0	81694
	France	23.7	105109	0	105109
	China	3.1	112085	4.8	117465
	Peru	2.5	1749000	0	1749000
	Israel	2.4	2087250	0	2087250
	India	0.3	257000	1.6	261112
Italy	Netherlands	47.2	79889	0	79889
	France	39.1	50886	0	50886
	USA	2.4	24089	4.8	25245
	China	1.9	17432	4.8	18269
	Spain	1.9	50135	0	50135
	India	0.4	16333	1.6	16594
China	Japan	22.6	139932	0	139932
	Denmark	13.4	14555	0	14555
	Thailand	12.4	20199	0	20199
	USA	10	56793	0	56793
	Chile	9	210408	0	210408
	India	3.3	1878000	0	1878000
France	Netherlands	43.2	47979	0	47979
	France	8.1	319980	0	319980
	Chile	7.7	108250	0	108250
	USA	5.8	22802	4.8	23896
	Spain	5.5	148013	0	148013
	India	1	107611	1.6	109333
Japan	Chile	27.9	89084	0	89084
	USA	15.6	15235	0	15235
	Italy	9.5	23089	0	23089
	China	8.4	32163	0	32163
	South Africa	8.4	101008	0	101008
	India	2.1	71000	0	71000
Germany	Netherlands	75.2	75614	0	75614
	France	8.1	23481	0	23481
	Switzerland	2.3	273750	4.8	286890
	Denmark	2.1	11587	0	11587
	Italy	2	14720	0	14720
	India	0.2	3247	1.6	3299
canada	USA	19.5	33098	0	33098

	Netherlands	18.9	256824	0	256824
	Peru	13.2	587154	0	587154
	China	11.8	4365	2.8	4487
	France	9.3	87276	0	87276
	India	0.8	231250	2.8	237725

### Major Vegetable Seed Types: Current Scenario

India's vegetable seed industry is a bouquet of wide range of vegetable which are widely consumed within the country. The demand for Indian vegetable seeds is growing very strongly in many of the foreign countries.

Most in demand are Solanacius vegetable crops and Cucurbits. Currently, vegetable and fruit seed exports consist of about 4 per cent of the total horticultural exports from India.

In this section, Tomato, Cabbage, Radish and Onion seeds in detail.

#### 1. TOMATO



Tomato is the world's largest vegetable crop after potato and sweet potato. Asia alone produces 60 percent of total world's Tomato with China and India leading the global Tomato production. In 2017, world's Tomato production was 182 Mill MT. China ranks first in the list with annual production of 59.51 Mill MT followed by India - 20.71 Mill MT, Turkey - 12.75 Mill MT and USA - 10.91 Mill MT. (Source: FAO) .India's climatic conditions are very congenial for the growth of wide variety of Tomato.

**India is the Second largest user of tomato hybrids after USA.**

#### HIGHEST EXPORTED VEGETABLE SEED

In 2018, India exported Mill USD **25.22** worth Tomato seeds which consists of 61 percent of total vegetable seed export. Netherland was the largest importer with import value of Mill USD 11.19 followed by USA - Mill USD 4.36, Israel - Mill USD 1.14 and Pakistan Ir- Mill USD 0.98. (Source: DGCIS) The price

realized per unit of Tomato seeds is much higher in the regions like Europe, America and Africa than APAC region. Kenya, Nigeria, Egypt, and Ethiopia are the countries from Africa importing Tomato seeds from India. Egypt and Nigeria are the largest producers of Tomatoes in Africa, together producing more than 10 Mio tons of Tomato annually.

**In Turkey, Tomato seed prices are 10 times than that of in India.**

## **2. CABBAGE**



In 2018, India exported Mill USD **1.76** worth of Cabbage seeds accounting for 0.99 percent of total vegetable seed export. Bangladesh was the largest importer with import value of Mill USD 0.43 followed by Pakistan –Mill USD 0.26 , USA –Mill USD 0.21 and Kenya –Mill USD 0.2 .

## **3. OTHER VEGETABLES**

India has the potential to be a breeding center for other tropical/ sub-tropical vegetable crops such as Peas, Cauliflower, Radish, Onion, Hot Pepper (Capsicum) Okra, Egg Plant etc. India is also exporting these vegetable seeds to the various international destinations.



Radish Seed find place in the markets like Bangladesh (35.71 per cent), Pakistan (22.86 per cent), Vietnam (14.29 per cent), Korea (5.71 per cent) and Hong Kong (4.29 per cent). The total export during 2018-19 was **414.72** metric tons, valued at USD **0.7** million. Of the total exports, USD 0.25 Mill was to Bangladesh and USD 0.16 Mill to Pakistan. (Source: DGCIS)



A small volume of Onion seeds have also been exported from India. Netherlands (45.54 %) is the largest importer of Onion Seeds from India, followed by Pakistan (30.36%), Kenya (8.84%) and Italy (6.67%). China is one of the largest Onion producers. Netherlands is more of a re exporting country unlike Kenya or Sri Lanka who imports for local cultivation.

### GLIMPSE OF INDIAN SEED MARKET

Indian seed industry is one of the most mature and vibrant one in the Global Seed Market. It is built on the foundations of strong public sector commitment to research and development that started in the 1960s under the Green Revolution. With support from international foundations, India established breeding centres for all major crops, a nationwide trial system and extension support. At present with the private sector dominating the market (with around 76 percent market share), there has been intense competition and a proliferation of companies. Today the private sector plays a dominant role both in R&D and marketing with the underlying infrastructure, technical skills, and production capacity; while germplasm has been the result of public investments over many decades. Rapid hybridization in vegetables, Rice and Corn to drive the growth.

## MAJOR VEGETABLE SEED MARKETS

Asian vegetable seed market is the largest where China and India are the major players in the region. They both together occupy the 48 per cent of the global vegetable seed market share. Europe stands next with 26 per cent share and France being major vegetable seed exporting hub to rest of the world. The future growth in vegetable seed is seen coming from increased cultivation to meet growing demand in developing nations, rapid adoption of hybrid seeds and policy changes to allow GM seeds.

## India's Export of Vegetable Seeds

Export of Vegetable Seeds from India is 11.99 Th MT, valuing Rs. Crores 745.95 / US\$ Mill 107.76 during 2018-19.

**CAGR 5 Yr: 19.88%**

## Major Destinations of Vegetable Seeds Exports from India

India exports vegetable seeds majorly to Netherlands (25.42 Mill USD), followed by USA (22.25 Mill USD), and Pakistan (17.1 Mill USD).

