A survey was conducted in Junagadh district to know the pesticide usage pattern in groundnut during Kharif 2016-17 and 2017-18. Results showed that around 20 insecticides were available in market for pest management among them Imidacloprid was the popularly sold product during both the years followed by thiamethoxam and Coragen. In 2017-18 six insecticides viz, Fipronil, Cypermethrin, Diafenthiuron, Novaluron, Buprofezin, Spinosad were not sold in Junagadh market and three new insecticide options were available for pest control in groundnut they were profenocyper, phosphomidon, lambdacyhalothrin. This trend helps us to say that most of the chemical sold had systemic action and used as seed treatment chemicals. Recent outbreak of white grubs and lepidopteran pests has resulted in such trend where Imidacloprid and Coragen were used by farmers for management of these pests. Similarly 13 fungicides were available in market for disease management among them Hexaconazole was the popularly sold product during both the years followed by Tebuconazole, Carbendazim, Difenconazole. In 2017-18 fungicide Hexaconazole was sold more in market to control of groundnut diseases. Among herbicides 11 were available in market for weed management among them Targa super was the popular sold product during both the years followed by Sodium Acifluorfen+Clodinafoppropargyl, Glyphosate. Targa super is effective in control of narrow leaf weeds. Hence we can conclude that incidence of insect pests, diseases and weeds in groundnut has resulted in the dynamics of pesticide usage in the local market.

**Keywords**
Imidacloprid, Pesticides, Hexaconazole, Targa super

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*consanguinea*, Red hairy caterpillar, *Amsacta albistriga*, Leaf miner, *Aproaerema modicella* and sucking pests like aphids, thrips and leaf hopper. The major diseases of groundnut are *Alternaria* leaf disease, Stem rot and Bud necrosis transmitted by *Thrips*. Weeds are potential competitors with crops for nutrients, moisture, light and space. Control of weeds particularly in cropping system is vitally important to check the loss caused by them. Yield loss due to weed infestation amounts to 80 per cent in groundnut (Murthy *et al.*, 1994). Hence, the Pesticides constitutes the key control strategy for crop pests and disease management and have been making significant contribution towards improving the crop yields. In recent years, the use of pesticides has become widespread practice for preventing, controlling and destroying pests. According to Central Insecticide Board & Registration Committee (CIB&RC), the major insecticides such as Carbofuran, Deltamethrin, Imidacloprid, Phorate, Quinalphos and Thiamethoxam are used for controlling pests. The major fungicides such as Carbendazim, Mancozeb, Metiram, Propiconazole, Pyraclostrobin, Sulphur, Tebuconazole, Thiram used for controlling diseases.

The major herbicides such as Alachlor, Imazethapyr, Quizalofop ethyl, Fluazifop-p-butyl + Fomesfen used for controlling weeds. Many pesticides are available in market for management of pests, diseases and weeds of groundnut and also with emergence or outbreak of new species the trend of pesticides changes. Hence a survey was carried out to know the pesticide usage pattern in groundnut.

**Materials and Methods**

A survey was conducted in local market with sample size of 50 shops. The pesticides sold in market during two years were recorded. The observations on amount of different pesticides sold in the market during two years for controlling of pests, diseases and weeds in groundnut were recorded. The data was analyzed statistically and ranking was given on the number of pesticides sold in the market during two years.

**Results and Discussion**

Survey results showed that around 20 insecticides were available in market for pest management among them Imidicloprid was the popular sold product during both the years followed by thiamethoxam and Coragen similar results were found by Anitha *et al.*, (2005) where Imidicloprid was found effective in managing white grubs. In 2017-18 six insecticides viz., Fipronil, Cypermethrin, Diafenthiuron, Novaluron, Buprofezin, Spinosad were phased out of Junagadh market and three new insecticide options were available for pest control in groundnut they were profenocyper, phosphomidon, lamdacyhalothrin. This trend helps us to say that most of the chemical sold had systemic action and used as seed treatment chemicals.

Survey results that around 11 herbicides were available in market for weed management among them Targa super was the popular sold product during both years followed by Sodium Acifluorfen + Clodinafoppropargyl, Glyphosate were found by Deivasigamani (2016) where whip super and Targa super applied at 2-4 leaf weed stage recorded the least weed counts of individual species. In 2017-18 four herbicides viz., 2,4-D, Oxyfluorfen, Paraquat, Propaquizafop + Imazethapyr were phased out of Junagadh market and one new herbicide Clodinafop + Metasulfuron were available for effective control of weeds in groundnut (Fig. 1–3).
Fig. 1 Percentage of insecticides sold during Kharif (2016-17 & 2017-18)
Fig. 2 Percentage of fungicides sold during Kharif (2016-17 & 2017-18)
Fig. 3 Percentage of herbicides sold during Kharif (2016-17 & 2017-18)
In conclusion, pesticides used in local market follow a dynamic trend based on the incidence of pests and diseases. In case of pests, Recent outbreak of white grubs and lepidopteran pests had resulted in usage of Imidacloprid and Coragen by farmers for management of these pests. In case of diseases, stem rot and Alternaria diseases had resulted more usage of Hexaconazole, thiram, carbendazim for management of the disease. Hence we can conclude that incidence of insect pests and diseases in groundnut has caused such a trend in pesticide market

References


Deivasigamani, S. 2016. Effect of Bio-


