



Fifty Years of Pesticide Usage Surveys - 1965 - 2015

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PUS surveys - 1965 - 2016

- Surveys funded by Defra under an LTSA
- Data used for registration & monitoring
- Respond to queries from Government, academia, industry & the public
- Surveys are voluntary but still achieve a 90% plus response rate
- Representative, stratified sample based on June Survey data
- National estimates made using Defra June Survey and Basic Horticultural Statistics data



PUS surveys - Data collected

- All usage - conventional pesticides; biopesticides & living biocontrol organisms
- Products, dates, rates and methods of application
- Water volumes and tank mixing
- Use of crop covers (selected surveys)
- Use of growing media (selected surveys)
- Use of pollinators (selected surveys)



Range of surveys currently conducted by the PUS(UK)

| Surveyed Crops | Number of Farms | % Area Grown |
|--------------------|-----------------|--------------|
| Arable | 1,201 | 6 |
| Grassland & Fodder | 688 | 8 |
| Edible Protected | 272 | 52 |
| Outdoor Vegetables | 640 | 36 |
| Soft Fruit | 336 | 39 |
| Orchards | 283 | 35 |



PUS crop surveys - date of first survey

| Survey Year | Survey |
|-------------|--------------------------|
| 1965 | Hops |
| 1965 | Soft fruit |
| 1966 | Vegetables |
| 1966 | Outdoor bulbs & flowers |
| 1967 | Orchards |
| 1968 | Glasshouse crops |
| 1968 | Mushrooms |
| 1971 | Hardy nursery stock |
| 1974 | Arable crops |
| 1974 | Grassland & fodder crops |



PUS other surveys - date of first survey

| Survey Year | Survey |
|-------------|-------------------------------|
| 1966 | Farm grain stores |
| 1967 | Commercial grain stores |
| 1968 | Local Authority Rodenticides |
| 1981 | Sheep |
| 1983 | Fruit stores |
| 1988 | Potato stores |
| 1988 | Rodenticide use - arable 1988 |
| 1989 | Rodenticide use - fodder 1989 |

Surveys prior to 1987

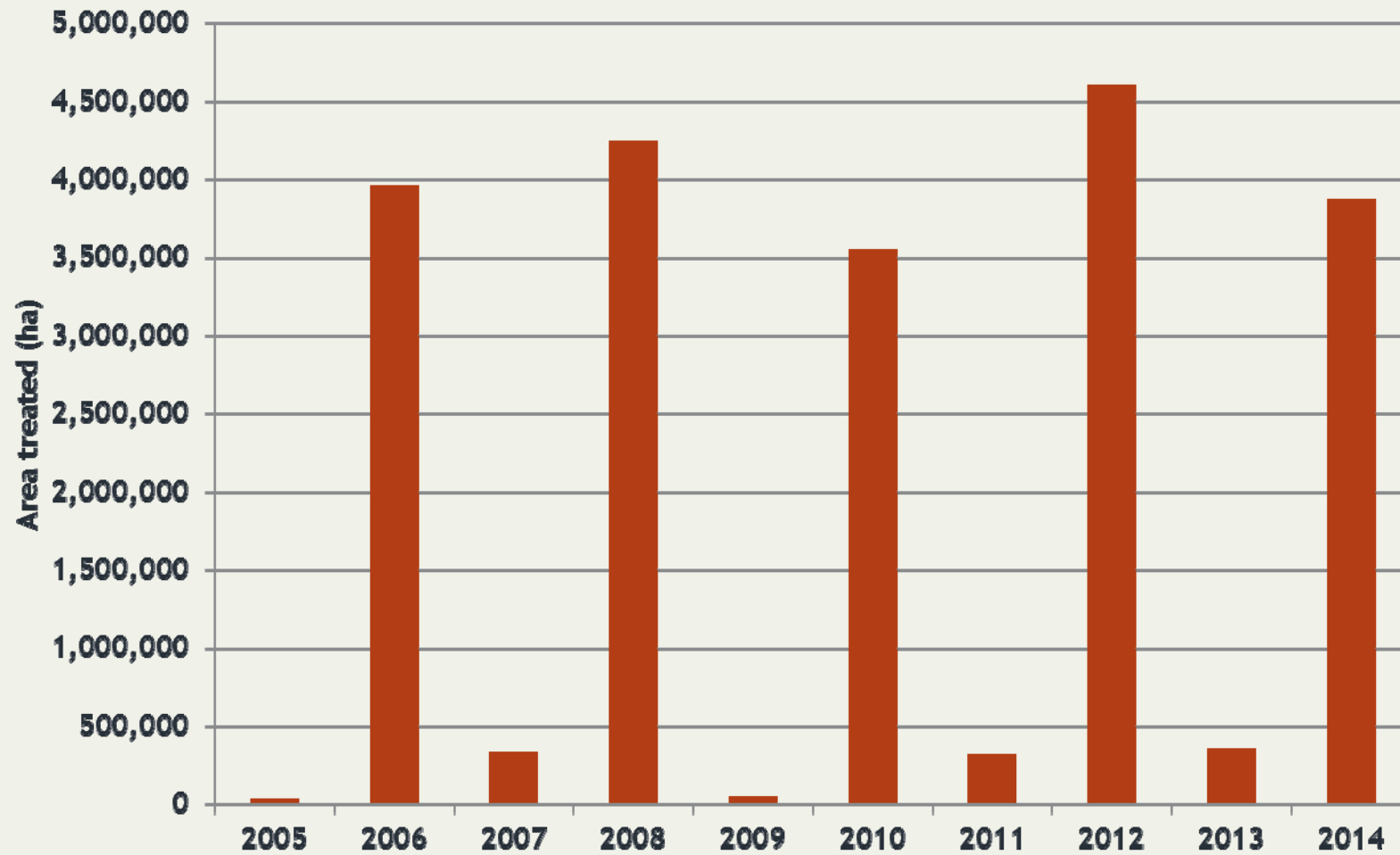
- Data extracted from published reports
 - Survey & year
 - Crop surveyed
 - Methods of application
 - Treated areas with each active substance/formulation
 - Weight of active substance - issues with formulations
 - Additional data in reports, but not on rolling database



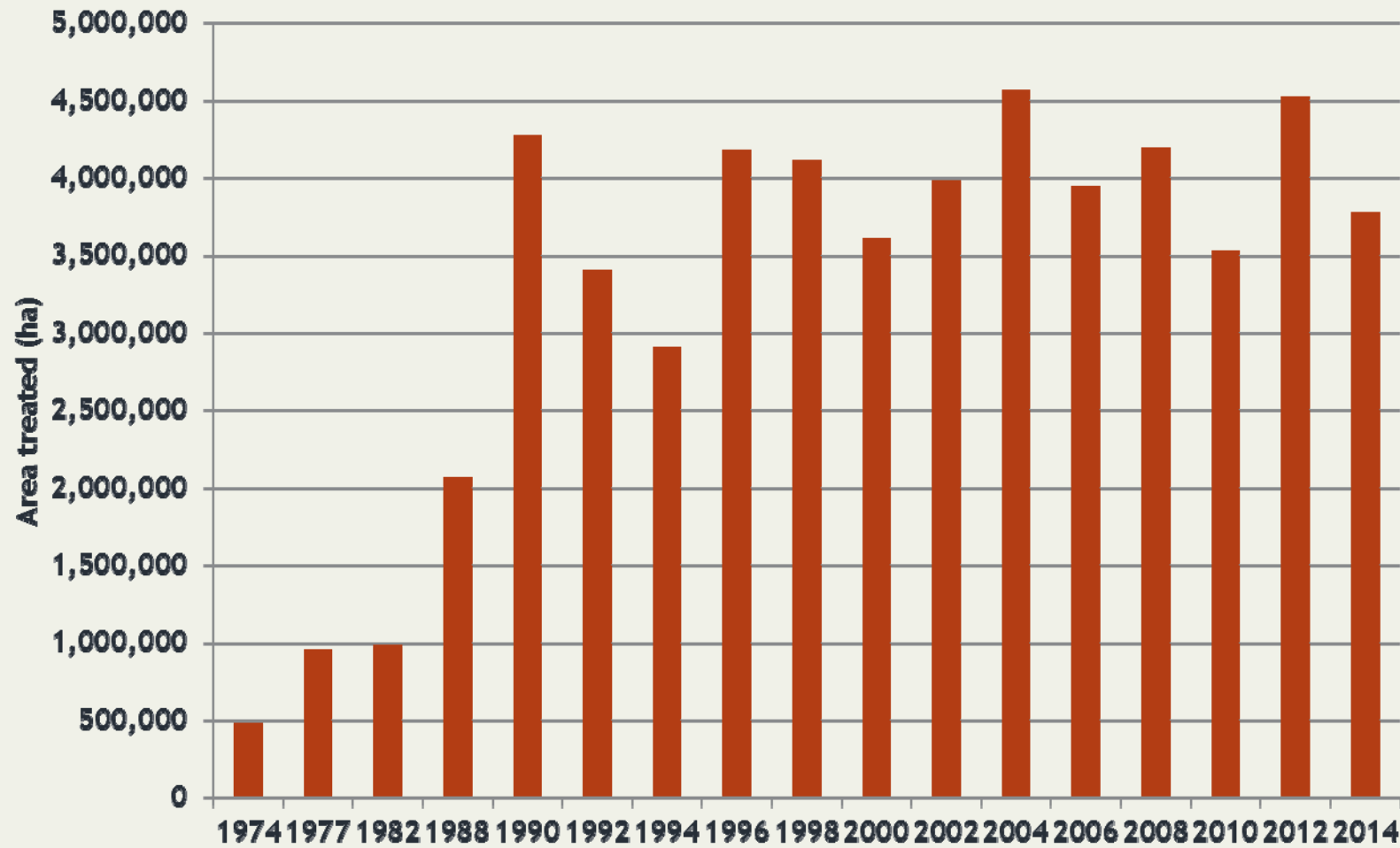
Surveys from 1987 onwards

- Full field level data
 - Survey & year
 - Crop surveyed, Products used
 - Dates, Rates & Methods of application
 - Tank mixing
 - Treated areas with each active substance/formulation
 - Weight of each active substance/formulation

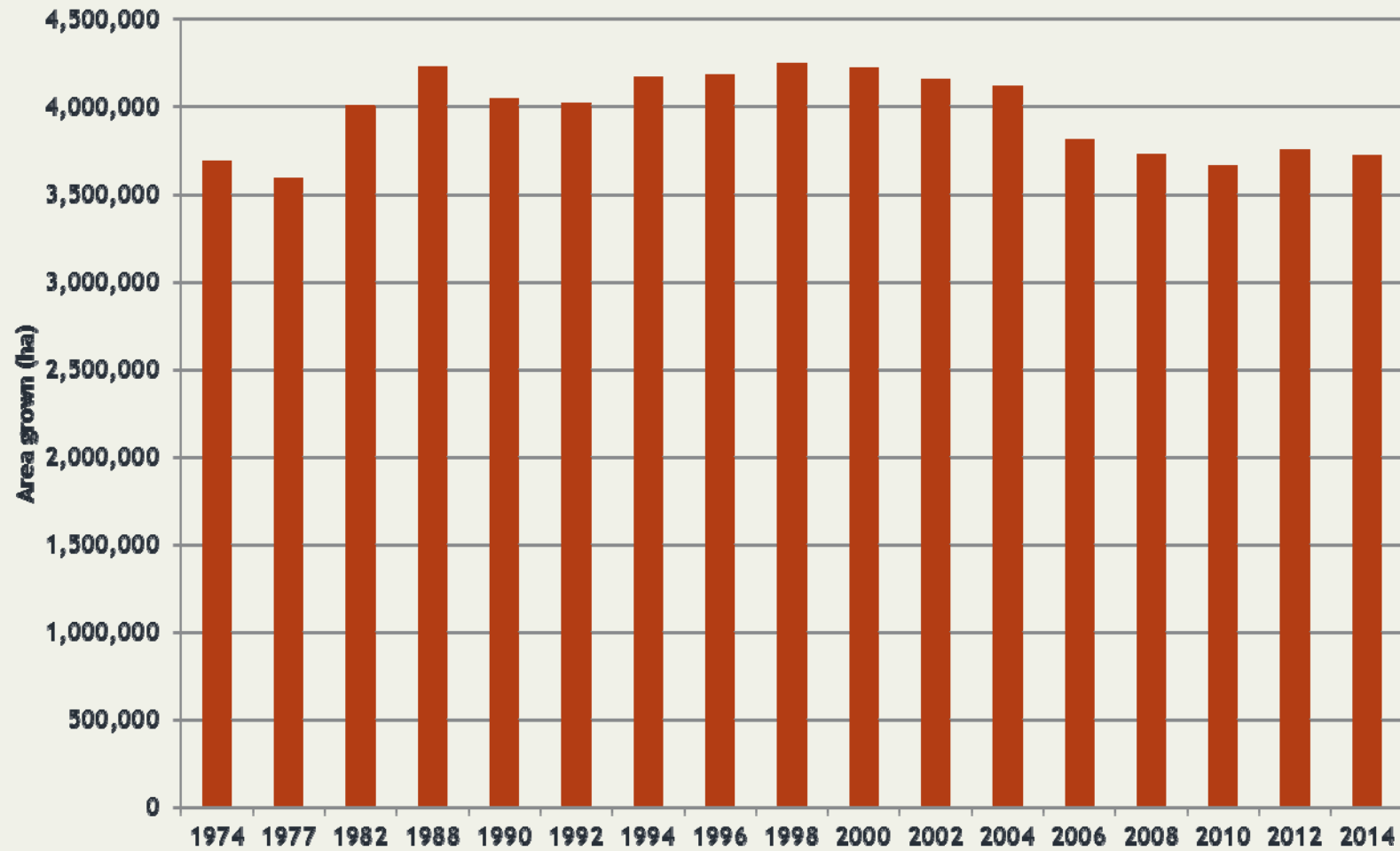
Change in insecticide usage over the last decade - all crops



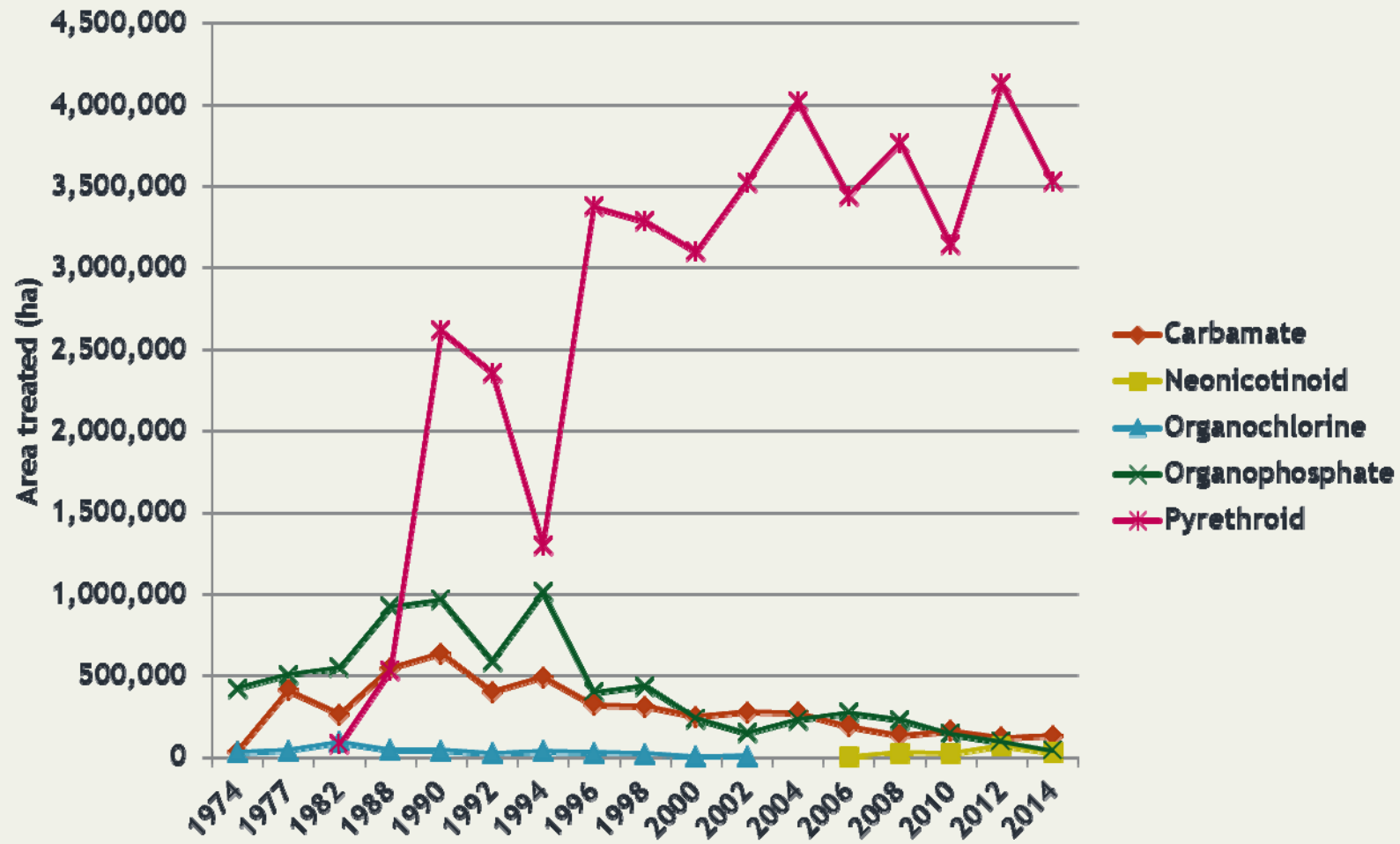
Change in insecticide usage on arable crops



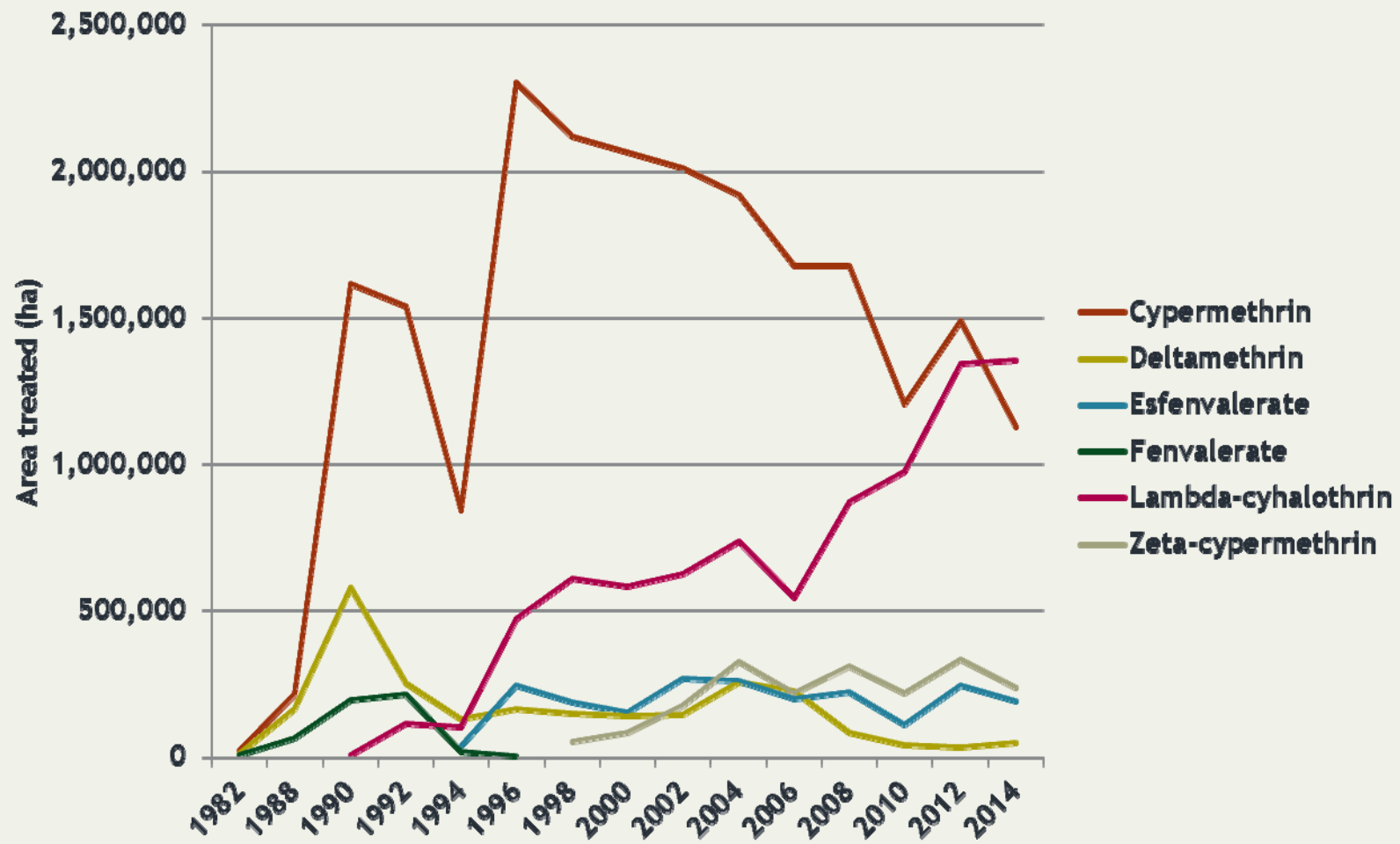
Area of arable crops grown



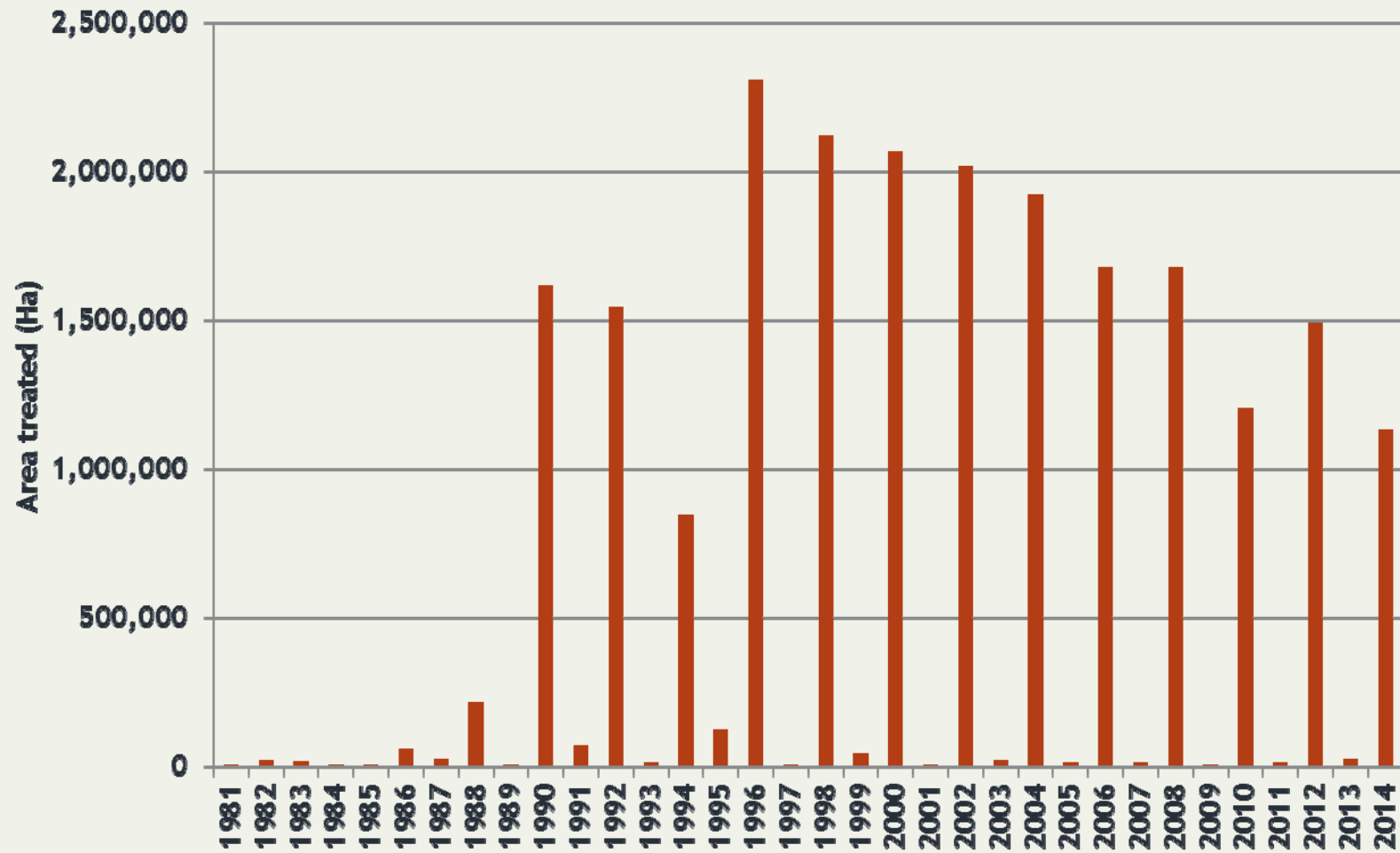
Change in insecticide usage on arable crops



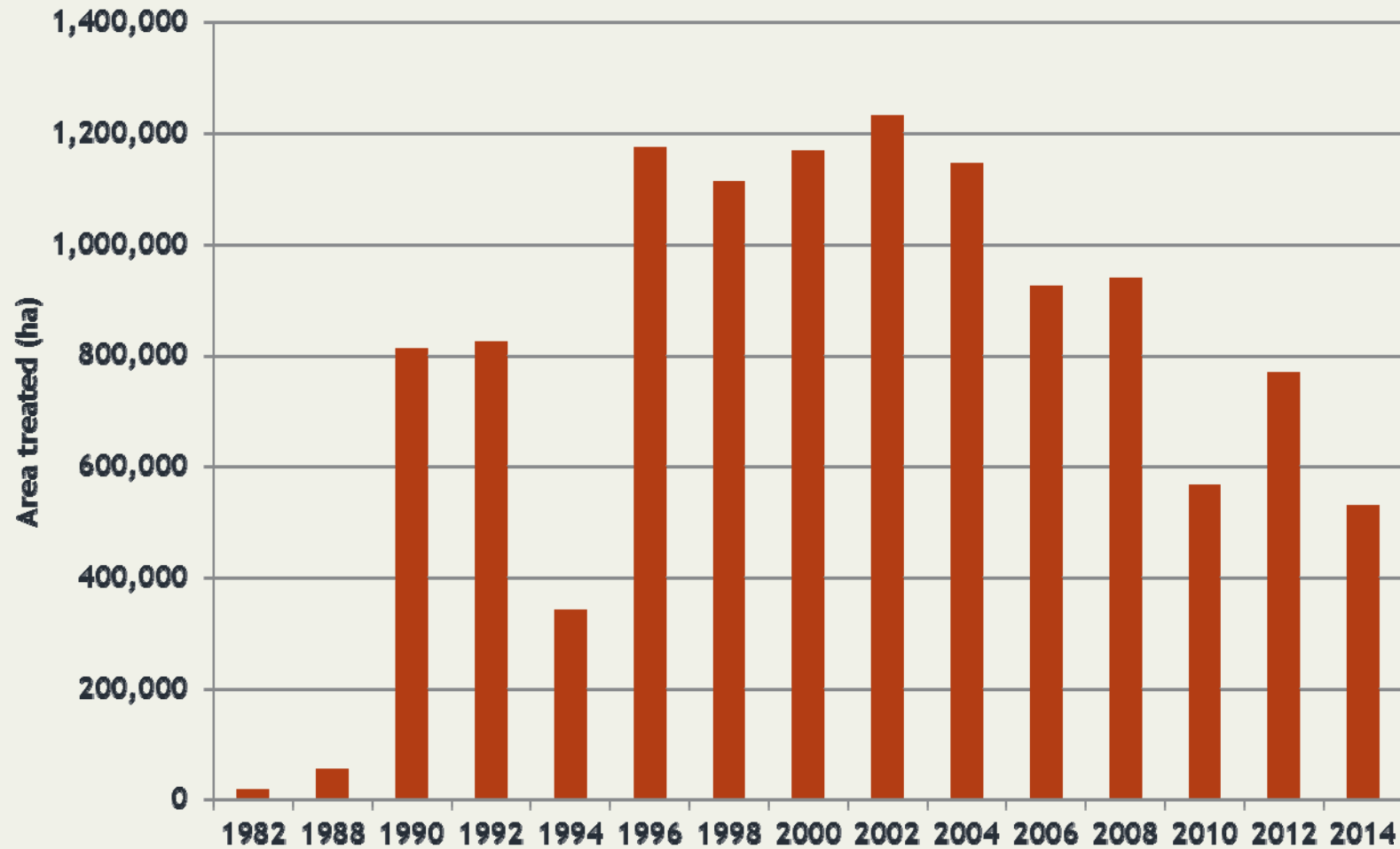
Change in pyrethroid usage on arable crops



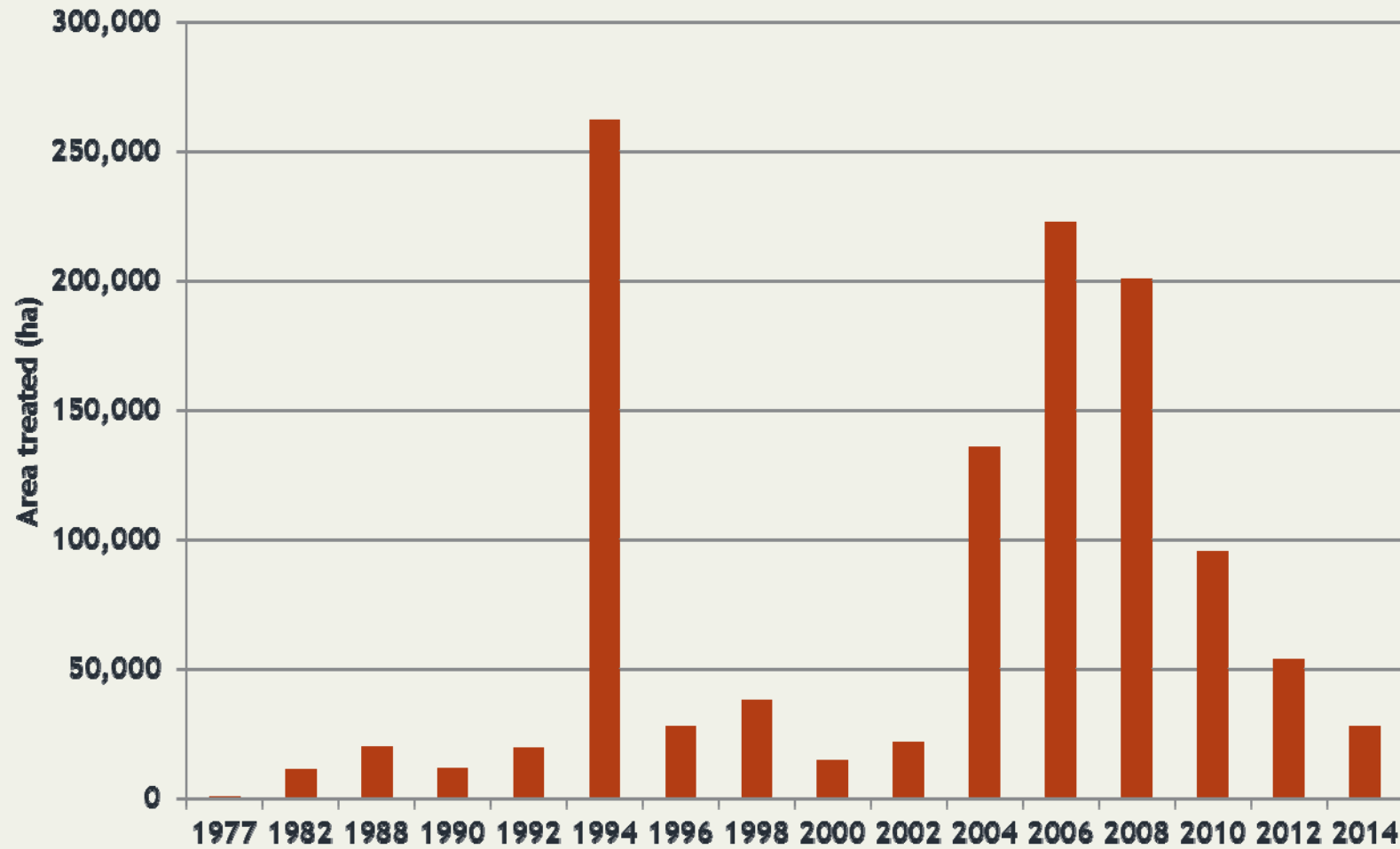
Cypermethrin usage since 1981



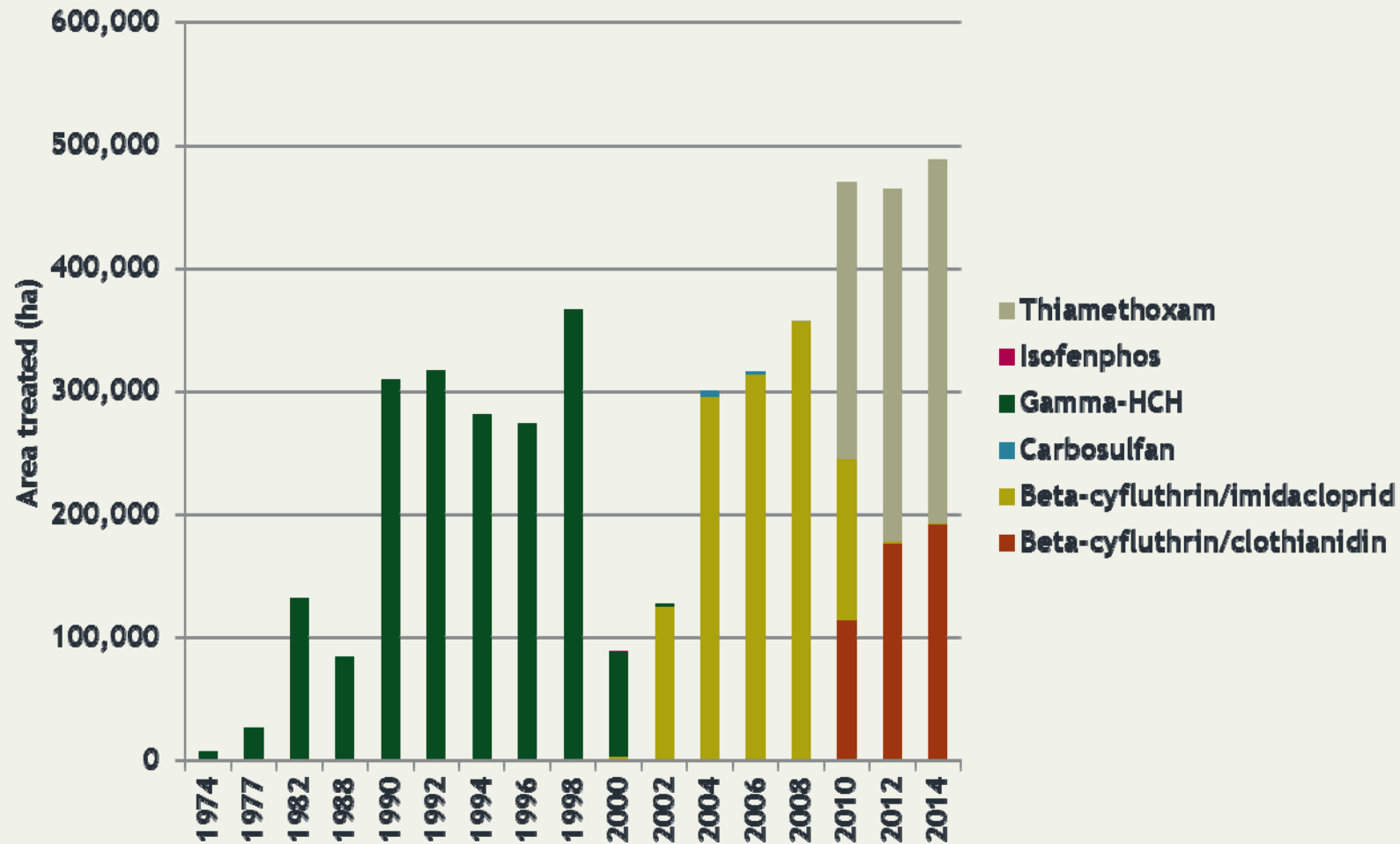
Cypermethrin usage on wheat



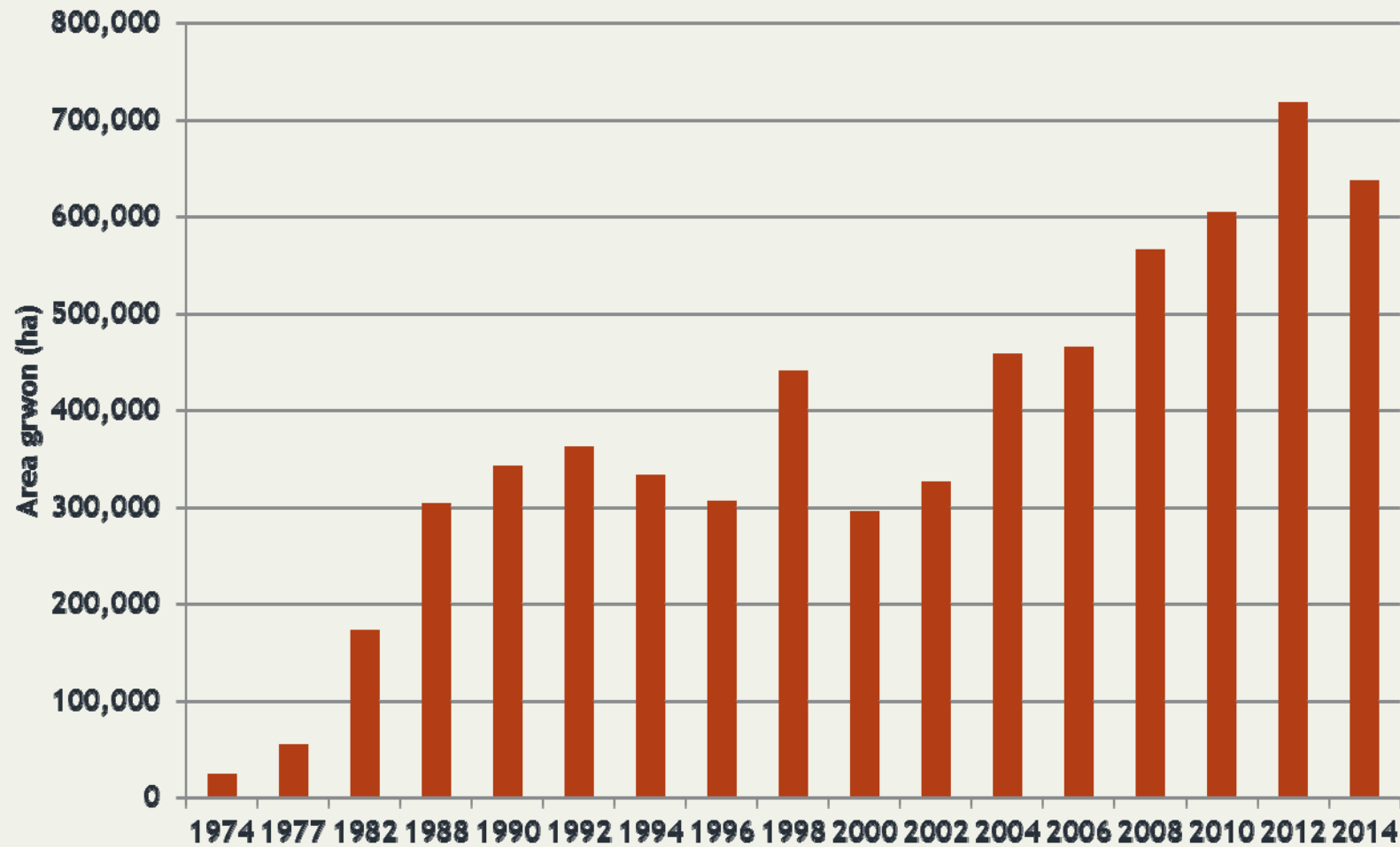
Chlorpyrifos usage on wheat



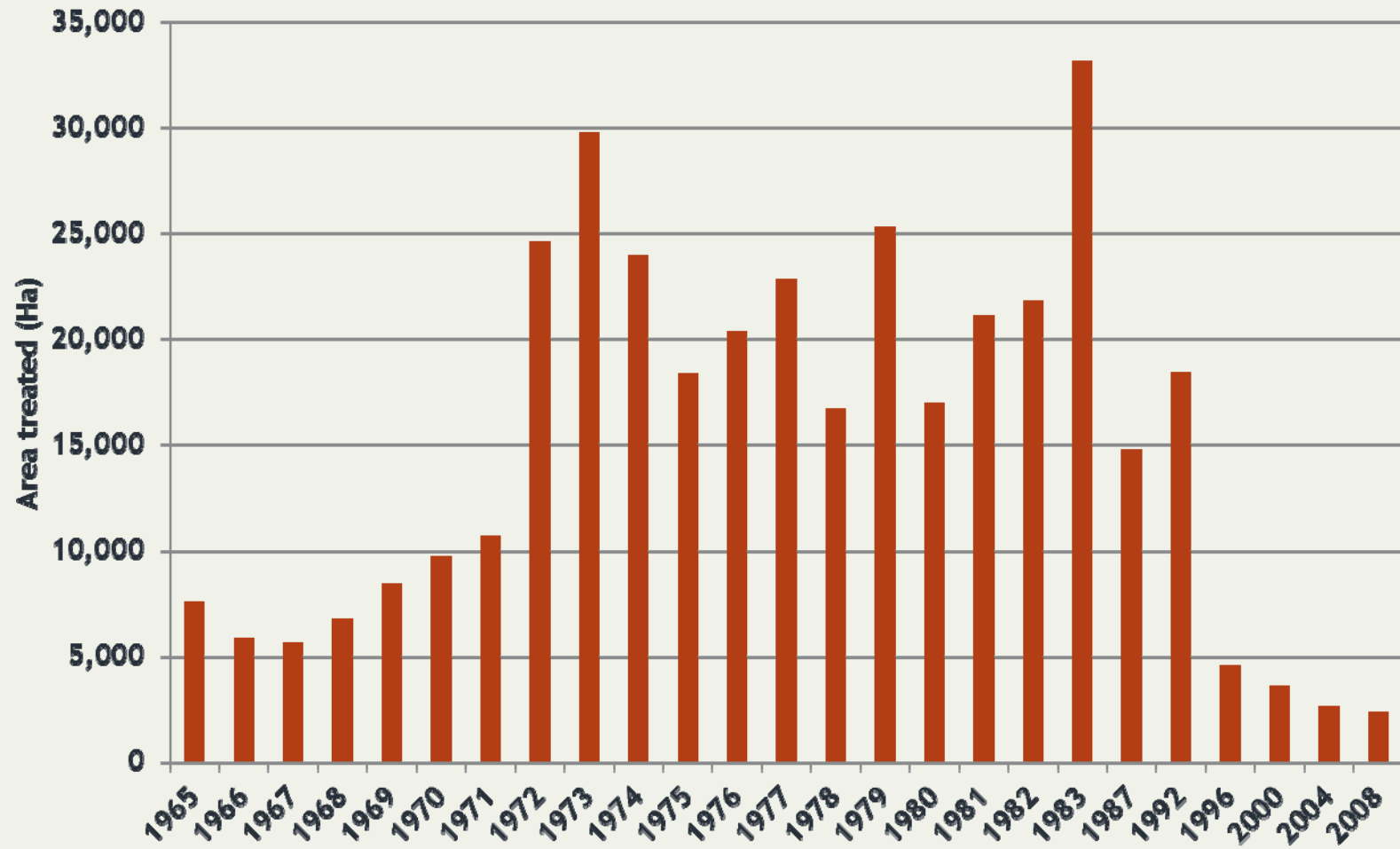
Oilseed rape - changing use of seed treatments



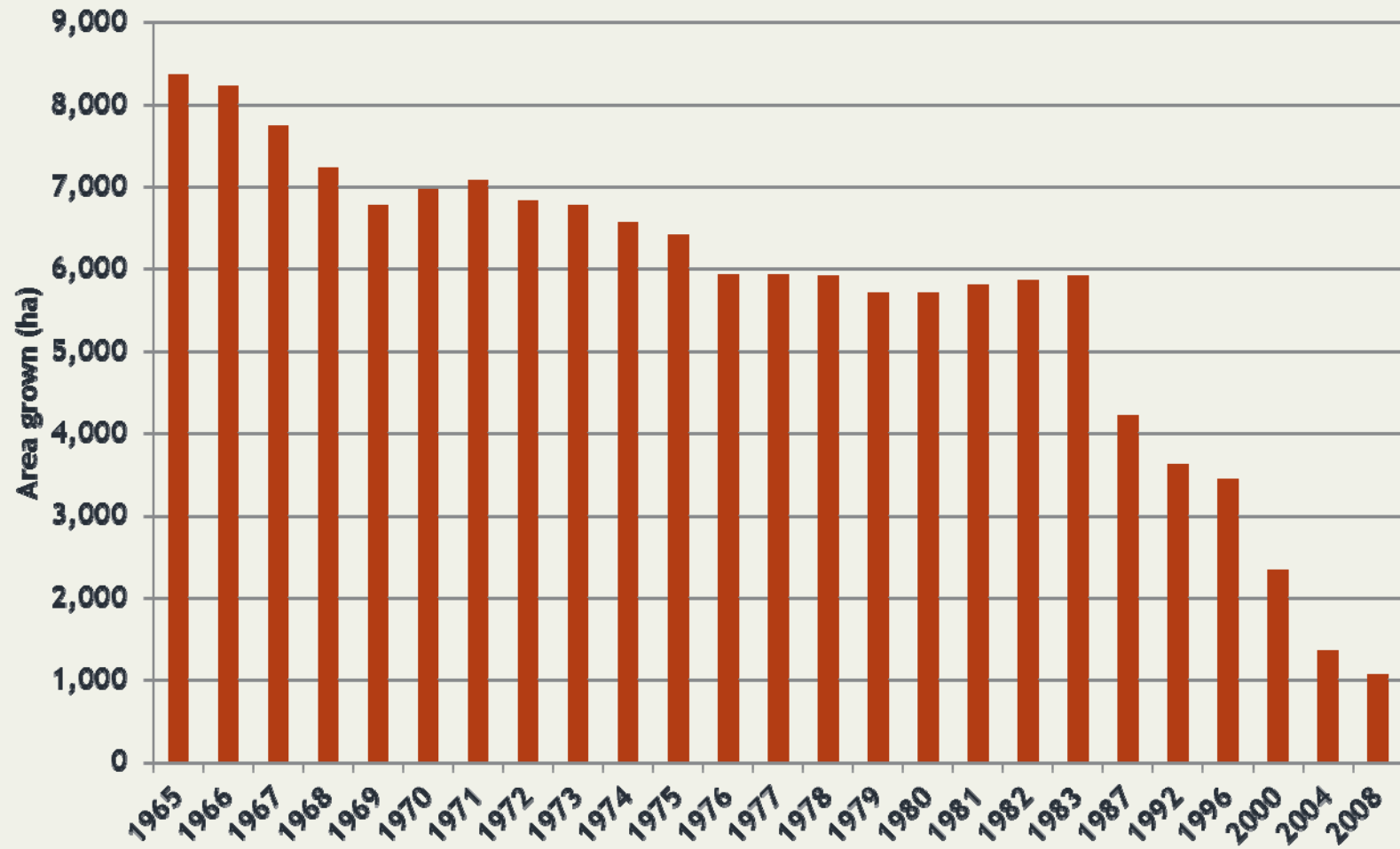
Oilseed rape - change in area grown (ha)



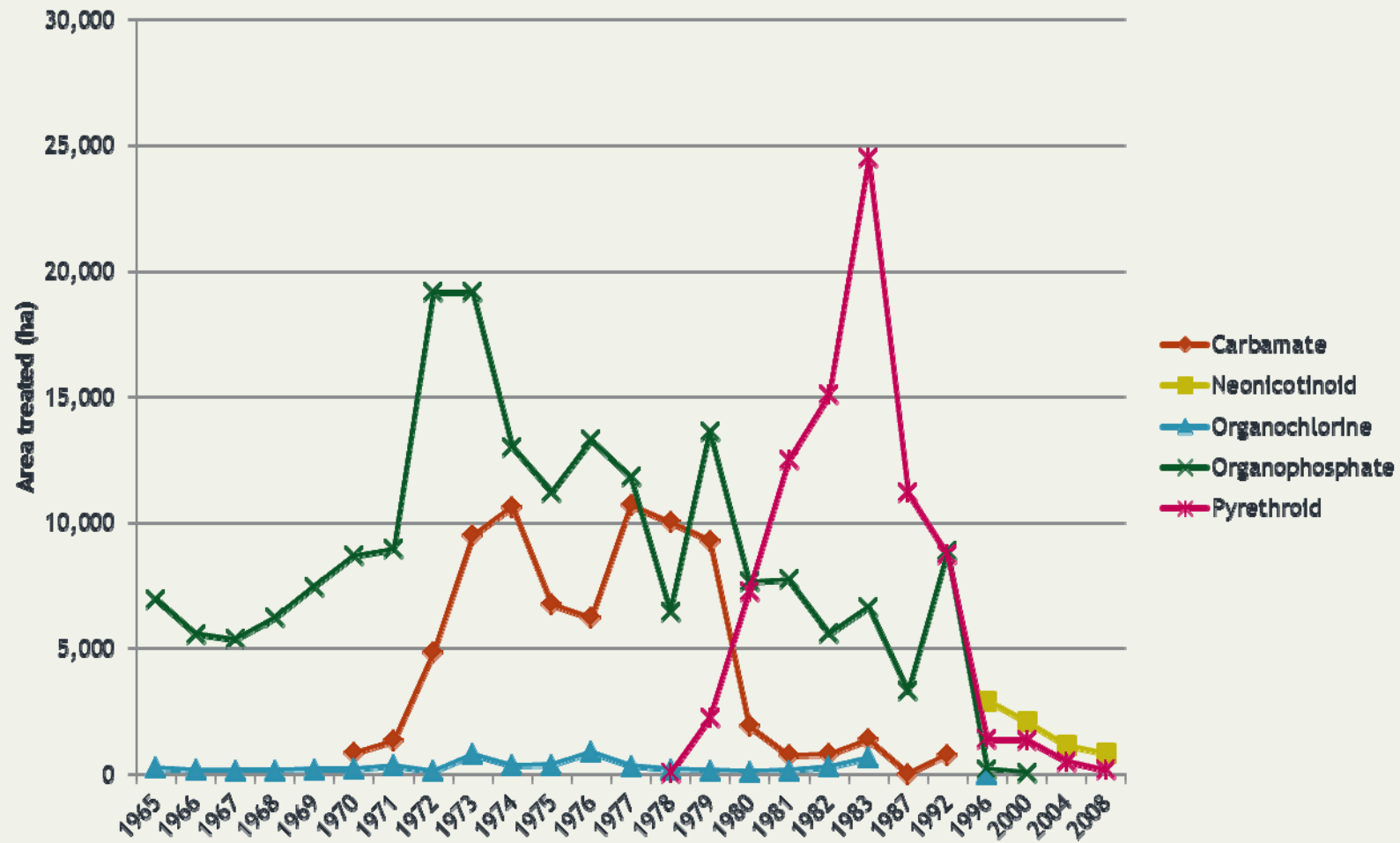
Change in insecticide usage on hops



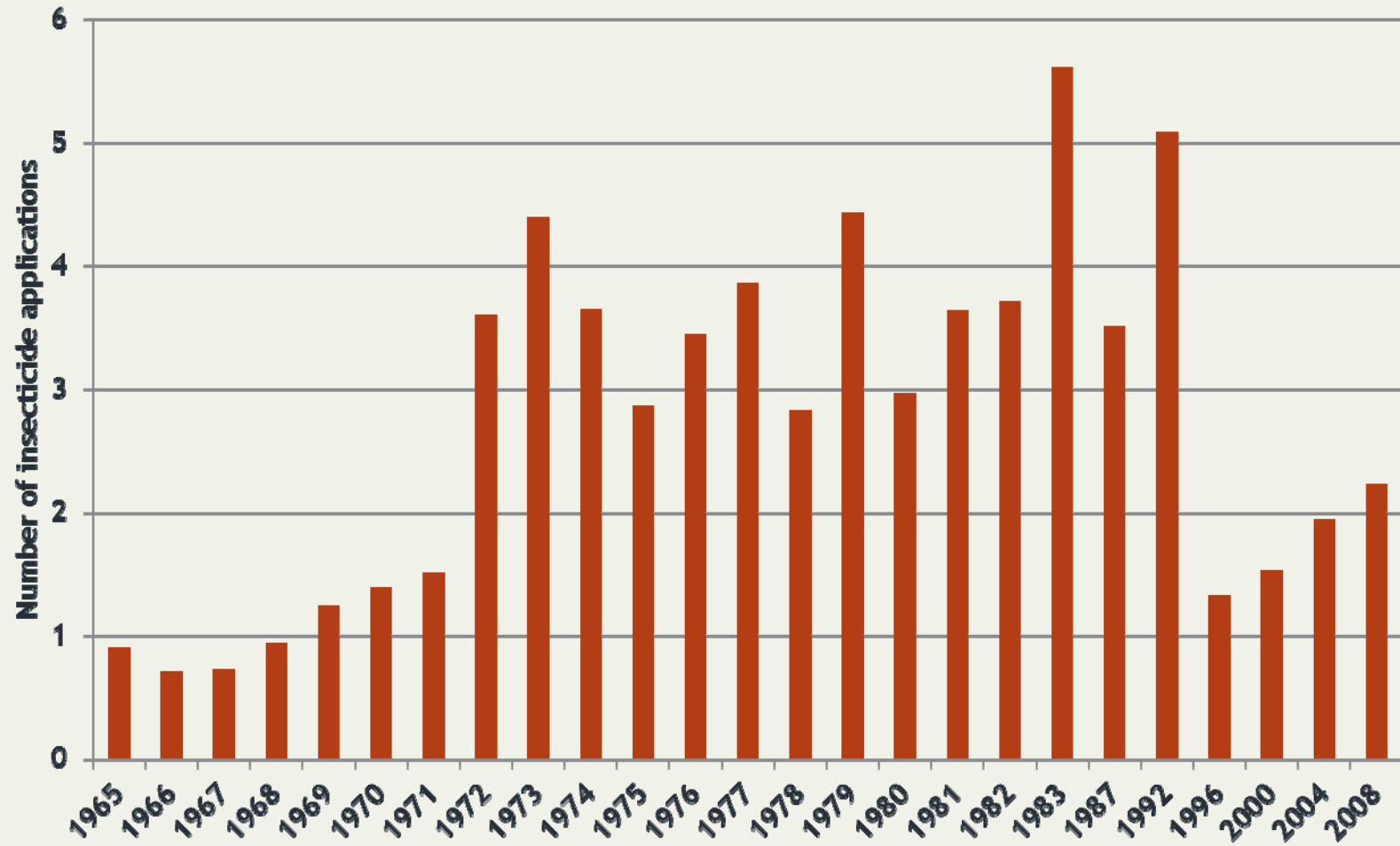
Change in area of hops grown



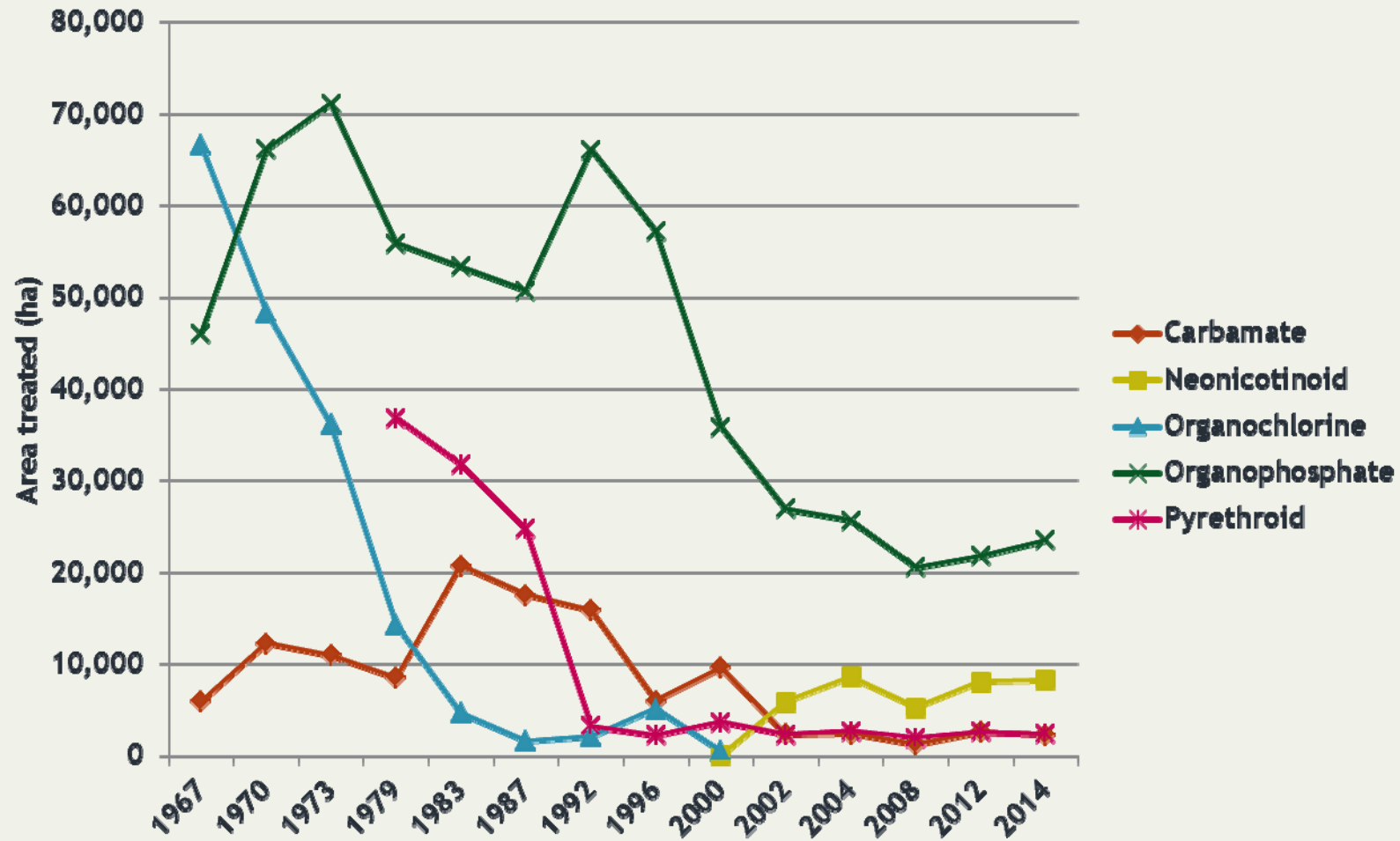
Change in insecticide usage on hops



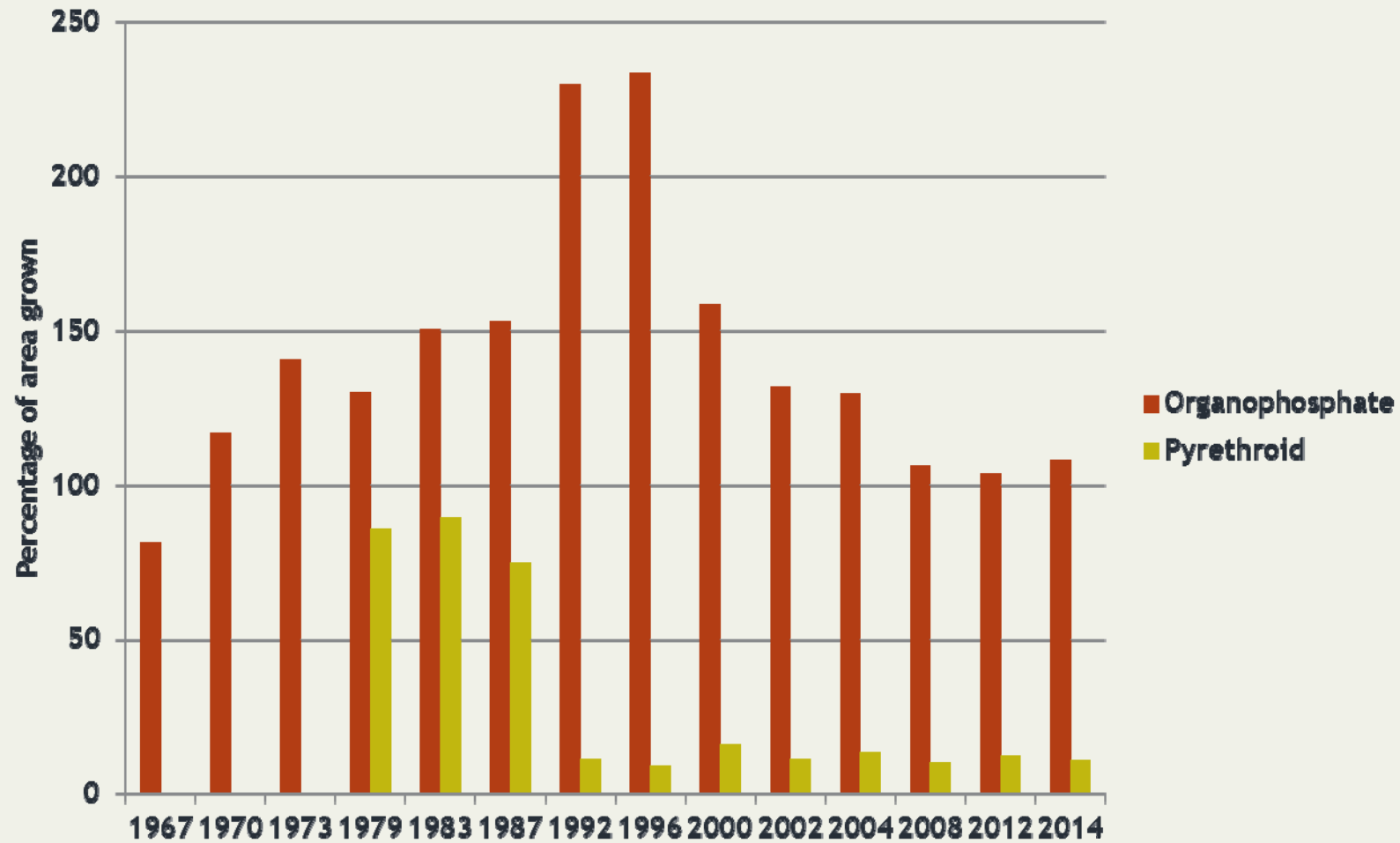
Hops - number of insecticide applications



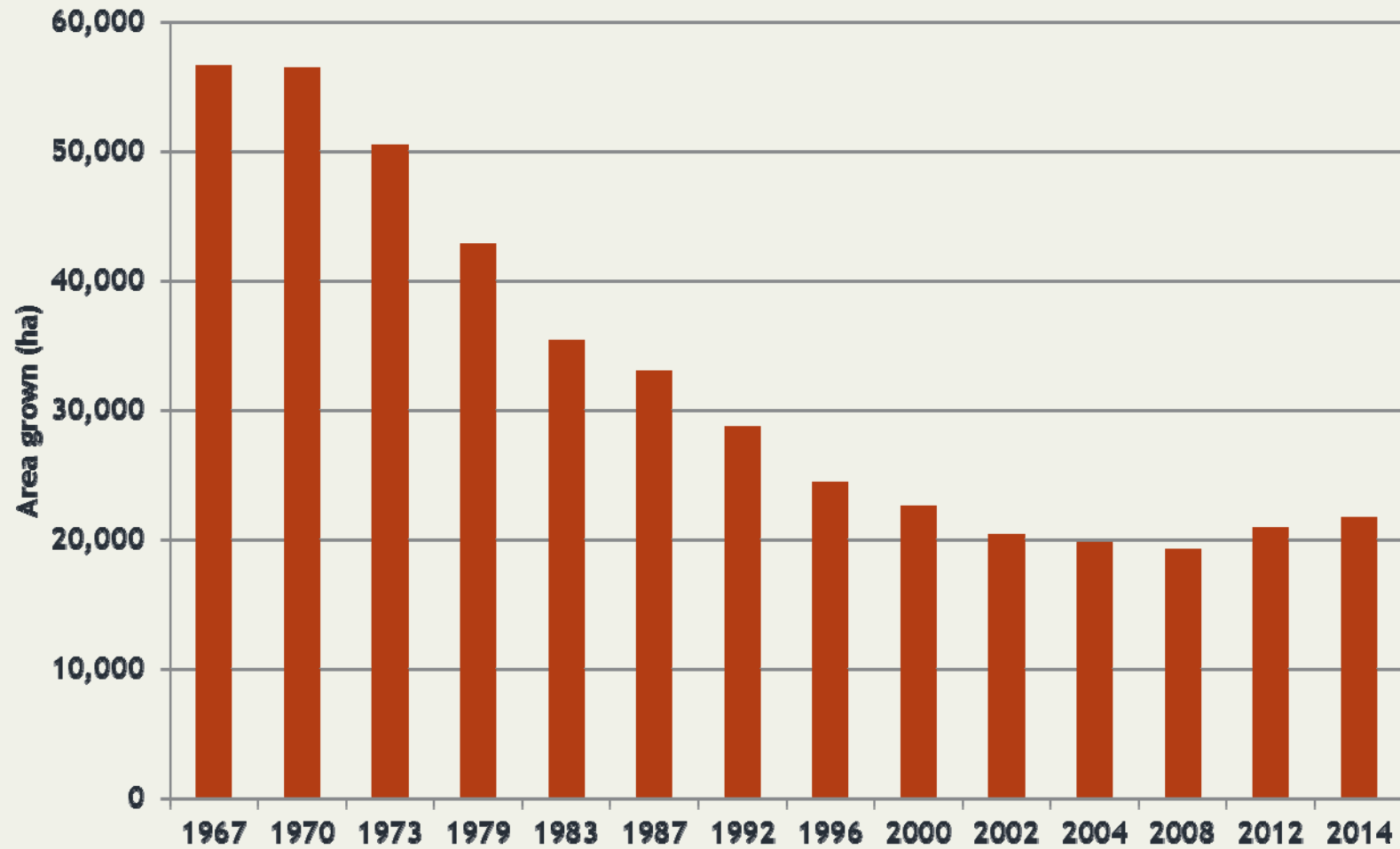
Change in insecticide usage on orchards



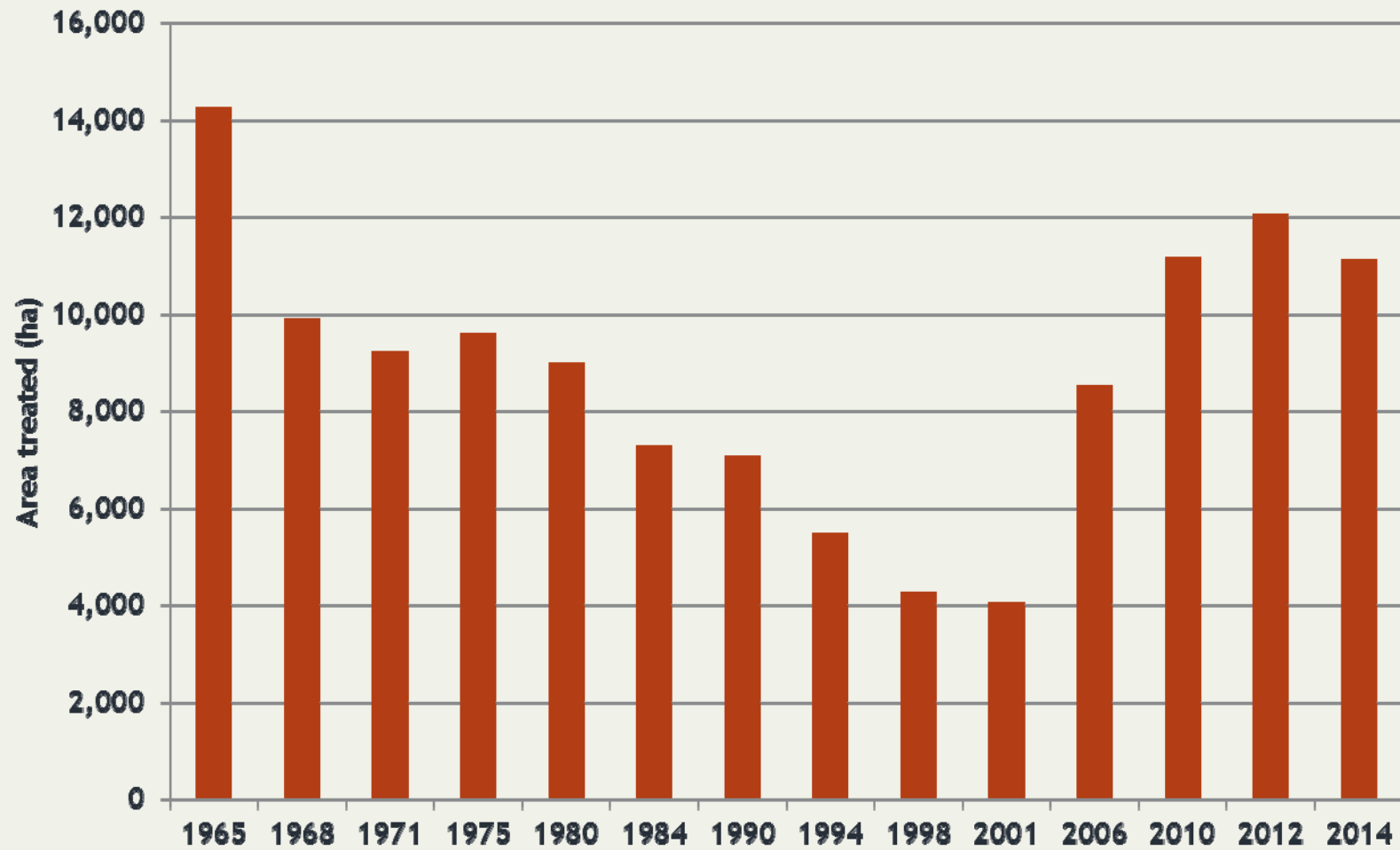
Change in insecticide usage on orchards



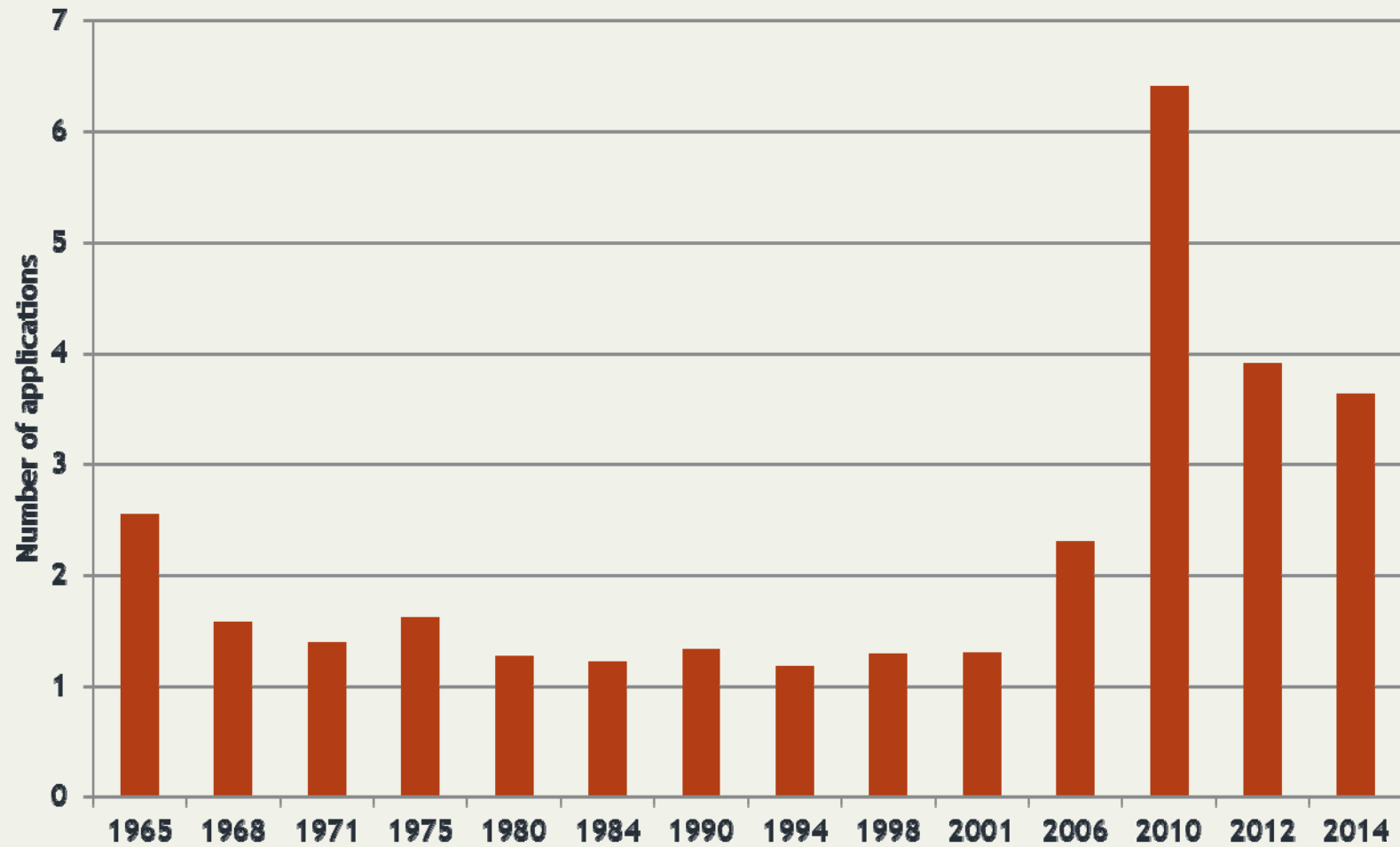
Change in area of orchards grown



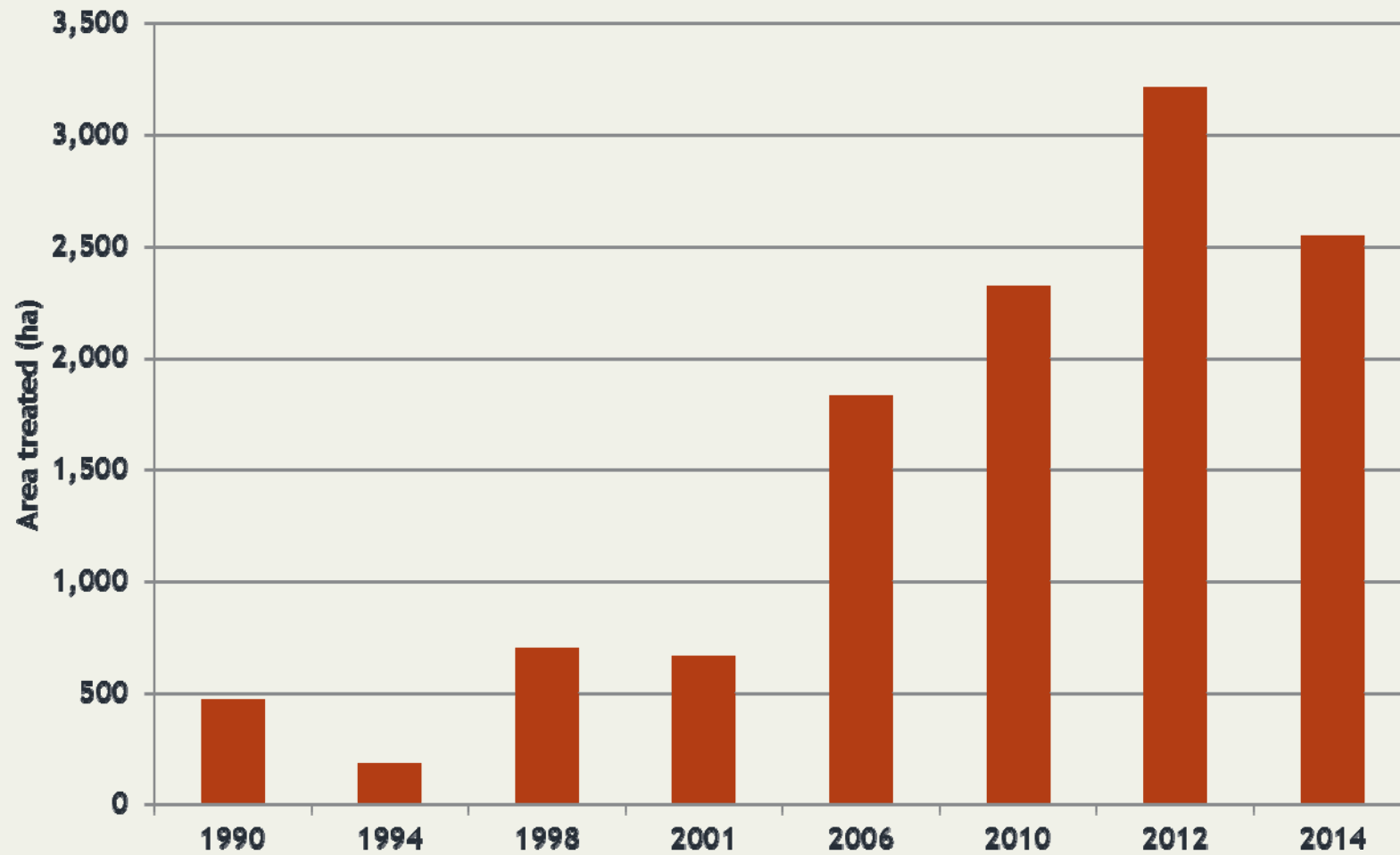
Change in insecticide usage on strawberries



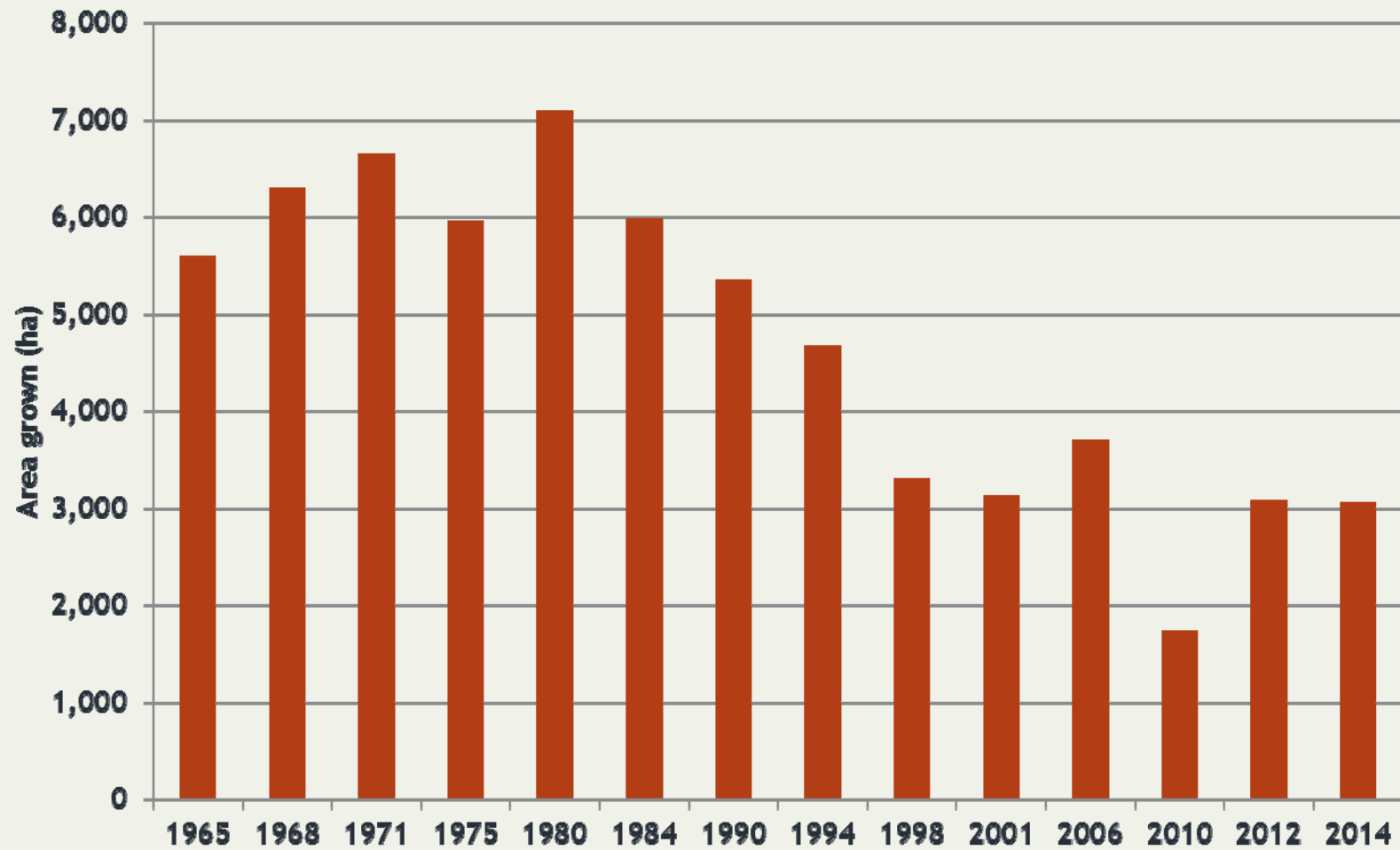
Strawberries - number of insecticide applications



Change in living biocontrol usage on strawberries



Change in area of strawberries grown

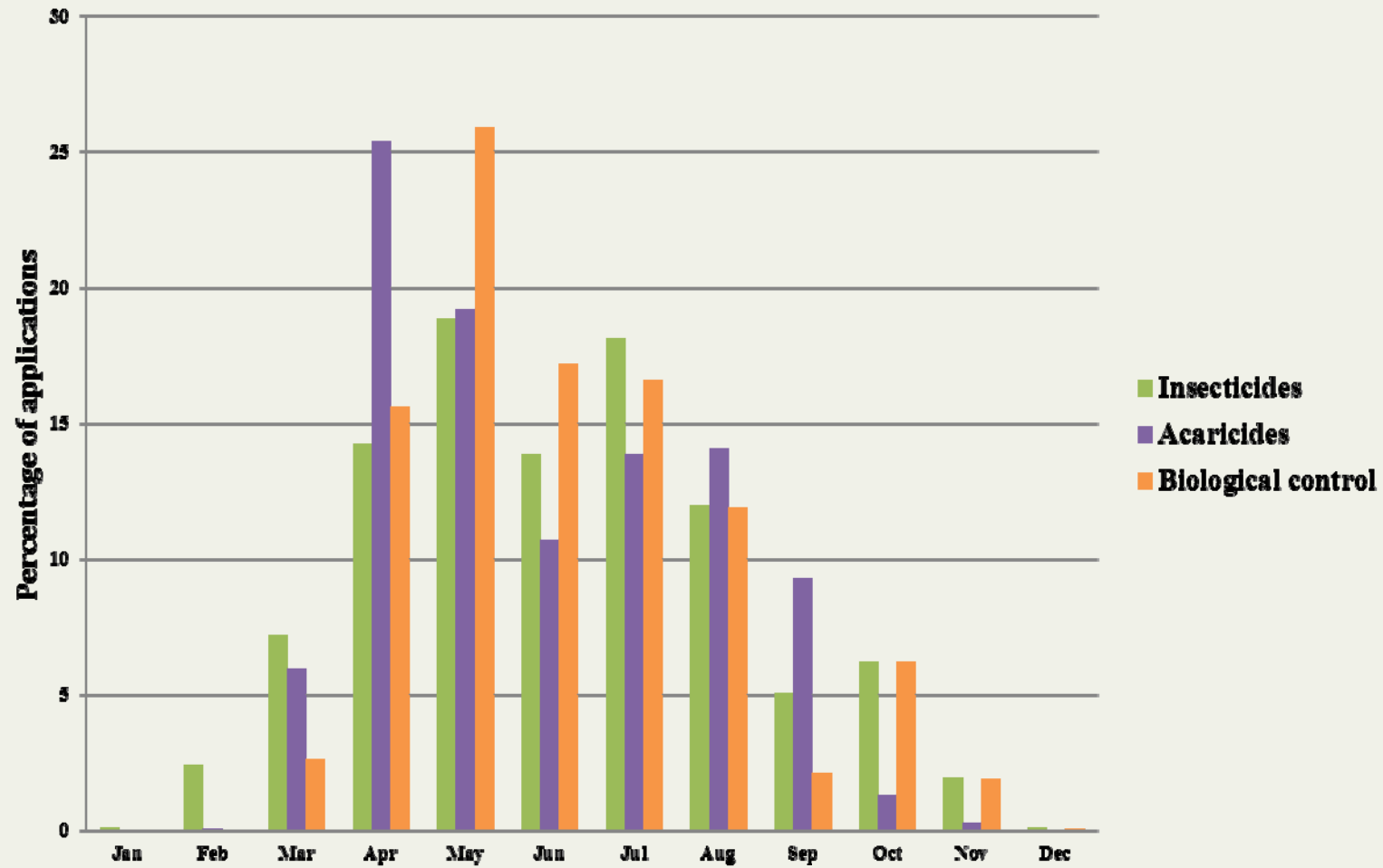




Strawberries - insecticide usage - 2014 - UK

| Active substance | Area Treated (Ha) | Weight Applied (Kg) | Prop Treated area | Prop Area grown | Number app | Prop RR |
|--------------------|-------------------|---------------------|-------------------|-----------------|------------|---------|
| Chlorpyrifos | 2,721 | 1,801 | 0.19 | 0.49 | 1.41 | 0.94 |
| Pirimicarb | 2,405 | 582 | 0.16 | 0.42 | 1.45 | 1.02 |
| Thiacloprid | 2,370 | 274 | 0.16 | 0.42 | 1.43 | 0.96 |
| Pyrethrins | 1,986 | 110 | 0.14 | 0.22 | 2.28 | 0.53 |
| Lambda-cyhalothrin | 1,811 | 16 | 0.12 | 0.35 | 1.30 | 0.74 |

Strawberries - timing of application - 2014 - UK



Strawberries - reasons for use - 2014 - UK

